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P.O. Box 1970 Richland, WA 99352

222-S Analytical Laboratory

Project:

242-A EVAPORATOR FEED CHARACTERIZATION

Tank:

103AP

Customer Id. Number:

3AP891-10

Report Revision:

0

Date Printed:

June 9, 1992

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This report consists of pages 1 through 194, plus 5.1-5.23, 6.1-6.3, and 107.1.

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WHC-SD-WM-DP-025 Addendum 14 Rev 0 S I G N A T U R E P A G E

I have reviewed the Inorganic and Radiochemistry results reported in this data package (when applicable). The results meet the requirements of "242-A Evaporator Feed Characterization Project - Statement of Work" - WHC-SOW-91-0002. This data is an accurate representation of the data generated for the requested laboratory analyses performed.

A. Tillinan	9/5/92
J/./H. Tillman	'/ Date
/242-A Evaporator Project Manager	

I have reviewed the compiled report and certify that this data package meets the document standards of the RCRA Data Packaging Procedure LO-150-151. This data package is complete and contains the data generated from the requested laboratory analysis performed on this sample.

2.1. Webl	07105-192	
. R. Webb	Date (
Records Management Specialist		

Records Management Specialis
Data Coordinator

245

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I have reviewed this report and certify that this data package meets the requirements of "Quality Assurance Project Plan for the Chemical Analysis of Highly Radioactive Samples in Support of Environmental Activities on the Hanford Site" - WHC-SD-CP-QAPP-002, unless superseded by the Statement of Work or Waste Characterization Plan. This data package is a complete and accurate representation of the data generated from the requested laboratory analyses performed on this sample based on the QA Review Process.

L. P. Markel
Laboratory Q.A. Officer

Date

The data contained in this hardcopy data package has been approved and authorized for release by the Laboratory Manager or Manager's designee as verified by the following signature.

A/Bell 9/15/92
Date

Processing and Analytical Laboratories

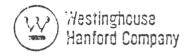
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NARRATIVE

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P.O. Box 1970 Richland, WA 99352

242-EVAPORATOR FEED CHARACTERIZATION

INORGANIC CASE NARRATIVE

Introduction

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The analysis of samples in support of the 242-A Evaporator Feed Characterization Project for Fiscal Year 1991, was performed by the 222-S Laboratory during the last quarter of 1991 and completed during the first quarter of 1992. Samples received and analyzed for the inorganic and conventional parameters were performed using methods specified in the Statement of Work (SOW), WHC-SOW-91-0002 Westinghouse Hanford Company, 242-A Evaporator Feed Characterization Project Fiscal Year 1991, September 1991.

Samples submitted to the laboratory were identified as:

- 1. TK-102-AW (referred to as 102AW in the remainder of this report) the feed tank prior to the evaporator.
- 2. TK-106-AW (referred to as 106AW in the remainder of this report) one of the candidate feed tanks into 102AW.
- 3. TK-103-AP (referred to as 103AP in the remainder of this report) the other candidate feed tank into 102AW.

The inorganic constituents requested for analysis on the three tanks were divided into the following categories; metals by Inductively Coupled Plasma (ICP), metals by Atomic Absorption Spectroscopy (AAS), and conventional parameters by specified methods. The results were obtained using approved methods as specified in Table I of the SOW. Quality analyses, including number and frequency, were performed in accordance to guidance found in Table 2 of the SOW. The parameters analyzed for from the three tanks are:

Metals by ICP

Silver	Ag
Aluminum	ΑĬ
Barium	Ba
Cadmium	Cd
Chromium	Cr
Iron	Fe
Magnesium	Mg
Manganese	Mn
Sodium	Na
Lead	Pb
Zinc	Zn

Metals (AAS)

Arsenic	As
Selenium	Se
Mercury	Hg

Conventionals (IC)

Fluoride	F
Chloride	C1
Nitrite	NO2
Nitrate	NO3
Phosphate	P04
Sulfate	S04

Conventional (Specified Methods)

Total Organic Carbon Total Inorganic Carbon	TOC
Cyanide Hydroxide Ph	CN OH
Specific Gravity Differential Scanning Calorimetry	SpG DSC

The analysis of the samples for Cyanide, Total Ammonia, Total Inorganic Carbon (TIC), Specific Gravity, and Differential Scanning Calorimetry (DSC) were performed using methods traceable to ASTM or EPA. All other analytes were determined based on EPA SW-846 methods or current approved WHC golden rod procedures.

The Quality Objectives and requirements for this work effort were set to achieve the highest quality data. Factors relevant to sample matrix and the applicability of the methods to these complex matrices of samples from the evaporator candidate and feed tanks may have lead to biased results for some analytes of concern. The Quality Objectives were:

- 1. Matrix Spike and Matrix Spike Duplicate per batch or for no more than 20 samples which ever is less. The calculated Percent Recovery for these analyses to be within $\frac{75}{25}$ to $\frac{125\%}{20\%}$ and the Relative Percent Difference (RPD) must not exceed $\frac{125\%}{20\%}$.
- 2. One sample in twenty was to be analyzed in duplicate where specified. The duplicate results must agree with an RPD of \pm 20%.
- 3. A blank must be run for each batch or for every 20 samples.

J. H. Tillman, Manager Inorganic Chemistry PAL 9/5/92

P.O. Box 1970 Richland, WA 99352

242-EVAPORATOR FEED CHARACTERIZATION INORGANICS CASE NARRATIVE

Problems encountered:

Samples from the two candidate and one feed tank into the evaporator were received into the 222-S laboratory during the laboratory's transition period from process to environmental analysis. This transition period signaled a change in the analytical protocols required to meet different, and in some cases, more stringent conditions. Most of the problems encountered during this work effort can be attributed to the response of the laboratory to these changing requirements. Nevertheless, the data generated for these samples was obtained using the best available laboratory practice at the time of sample analysis. The following problems were observed to have occurred throughout the samples submitted from tanks 102AW, 103AP, and 106AW:

(1) In a few cases, the analytical data cards are not corrected with one line, an initial and a date. Also, due to insufficient training, the chemists signed the analytical data card in the incorrect location. Though the analytical data cards were signed by the cognizant chemists, they were often signed in the inappropriate location on the card. This indicated the need for appropriate training to address this problem. This training effort has begun.

The Extension "1621" on the data cards represent an old extension which specifically denotes "TOC" analysis.

(2) <u>Instrument Detection Limits (IDL)</u>. Detection limits for the parameters determined were obtained using the method prescribed by the US EPA. The instrument detection limits for the metals determined by Inductively Coupled Plasma (ICP), Atomic Absorption (AA), Ion Chromatograph (IC) and classical methods are obtained from an aqueous matrix. The instrument detection limits for the analytes on actual evaporator feed or candidate tanks would probably be higher due to matrix efforts. The standards used to prepare the solutions for the detection limit determinations were obtained from bonifide and reliable sources. The procedure basically requires the analysis of seven replicates of the analyte at a concentration two times the noise level for the instrument. Following this protocol, the instrument detection limits were met or exceeded when compared to the IDC's in the Request for Special Analyses (RSA). Typical instrument detection limits obtained during this work effort are listed below:

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Analyte

Detection Limit (ppm)

	Required	Actual
Arsenic (As) Cyanide (CN) Mercury (Hg) Ammonia (NH4) Hydroxide (OH-) Selenium (Se) Total Inorganic Carbon (TIC) Total Organic Carbon (TOC) Fluoride (F) Nitrate (NO3) Chloride (Cl) Nitrite (NO2) Phosphate (PO4) Sulfate (SO4)	5 .10 .20 500 1700 1 5000 5000 6000 5000 4000 5000 10000	.005 .010 .002 .100 17.000 .005 5.000 5.500 .090 .240 .040 .180 .130
Aluminum (Al) Barium (Ba) Cadmium (Cd) Chromium (Cr) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Silver (Ag) Sodium (Na) Zinc (Zn)	50 2 1 5 10 5 1 2 5 60 2	.075 .003 .004 .004 .007 .030 .0001 .001 .018 .048

Detection limits for the analytes required in the Statement of Work are listed for each set of samples. These instrument detection limits vary according to the analyte and instrument and were generated in accordance with the Request for Special Analysis (RSA), the internal memo, "Recommendations for Tank Farm Waste Analysis" by T. D. Blankenship, dated November 26, 1990, and references the document, "Detection Limit Package, Appendix B" for the 241-U-110 Single Shell Tank Waste Characterization data package, dated August 9, 1991. The detection limit study performed for Core 5 followed recommended EPA protocol.

J. H. Tillman, Manager

Inorganic Chemistry PAL

Detection Limits of Radionuclides

Listed below are the detection limits for indicated radionuclides for sample R945.

Radionuclide	DL uCi/L
Co-60	1.3x10 ⁺¹
Cs-134	9.0x10 ⁺⁰
Cs-137	1.4x10 ⁺¹
Ce-144	7.8x10 ⁺¹
Eu-154	2.6x10 ⁺¹
Eu-155	2.5x10 ⁺¹
Nb-94	9.0x10 ⁺⁰
Ra-226*	1.5x10 ⁺¹
Ru-106	1.4x10 ⁺²
Sn-113	1.0x10 ⁺¹

*Based on the gamma peak of daughter Bi-204

2

These limits are based on the background spectrum of the Ge detector which was used for counting of the above mentioned sample. The data reduction of the background gamma spectrum was done under the same parameters (sample size, sample geometry, and counting time) as used for the sample. Note that the limits will change in the sample depending on the presence of other radionuclides, their gamma-ray energies, intensities, and their levels of activity.



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242-EVAPORATOR FEED CHARACTERIZATION

INORGANICS CASE MARRATIVE

TANK: 103AP

Problems encountered:

A Non-Conformance Report (NCR) was generated for three samples from Tank 103AP. The samples involved were 3AP891-1, 3AP891-2 and 3AP891-3. Sample 3AP891-1 and 3AP891-2 were received into the laboratory with the custody seal improperly attached. The client reviewed these sample containers and granted permission to proceed with the analysis for 3AP891-1 and 3AP891-2 because the custody seals were over the locking pin, indicating sample integrity was preserved. Sample 3AP891-3 was resampled and replaced by Sample 3AP1191-1. This sample was analyzed for the parameters stated. Please reference NCR #B06110, dated September 19, 1991. In addition, the custody seal for Sample 3AP891-1 (R933) was not on properly. This sample was approved for analysis after consideration and review by the client.

3AP891-10 (R945)

The percent deviations for Aluminum, Sodium and Silver were outside the control limits of $\pm 25\%$.

<u>Analyte</u>	<u>Percent</u>	Deviation
	Initial	Final
Aluminum		133
Sodium	148.8	180
Silver	37.2	

John Tillman, Manager

Inorganic Chemistry PAL

5.4

16500-90-090

From: Phone: Office of Sample Management

3-3869 MC-346/200W T6-08

Date:

100

5

November 26, 1990

Subject:

RECOMMENDATIONS FOR TANK FARM WASTE ANALYSES

To: T. D. Blankenship R1-62

cc: J. D. Briggs Elfer T6-14

J. A. Eacker R1-51

D. L. Halgren R1-51

J. H. Kessner T6-08

E. J. Kosiancic S0-61

C. R. Stroup T6-07

RLW File/LB

Reference: Internal Memo, T. D. Blankenship to E. J. Kosiancic, "Tank Farm Waste Analysis Requirements," dated September 10, 1990.

The referenced Internal Memo requests information regarding laboratory analytical capacity for a variety of analytes to support Tank Farm and Evaporator operations. Specific comments and suggestions for each have been prepared along with information on suggested minimum quantitation limits (MQLs) for the needed analyses and recommended reporting formats. With the exception of Nb⁹⁴, all requested analyses are currently performed on-site. Laboratory capacity exists to support these programs if sufficient prescheduling of activities is done to coordinate with times of high sample throughput in the laboratory (e.g., single shell tank sampling).

The discussions that follow are based on the assumption that the laboratory will be performing "standard" regulatory type analysis. Analysis MQLs are based on proven laboratory experience, turnaround times are based on requirements in the Tri-Party agreement, and reporting/validation formats based on WHC-CM-5-3, Section 2.0, "Data Validation for RCRA Analyses." This information is summarized in the following attached tables:

Table 1 MQLs for Inorganic Analysis
Table 2 MQLs for Radionuclide Analysis
Table 3 MQLs for Organic Analysis (these are CLP requirements but will form the basis for all organic analysis)
Table 4 Sample Turnaround Times
Table 5 Result Reporting/Validation
Table 6 Validation Criteria - Generic Data Quality Objectives (DQOs)

If specific needs different from this standard are required for a given program, these needs must be defined in the program's Waste Analysis Plan (WAP) or equivalent documentation and negotiated with the laboratory to assure

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compliance. While it is expected that in most cases specific needs will be more stringent, if less stringent requirements are appropriate, these should also be defined in the WAP. This could significantly reduce analytical costs and turnaround times.

Characterization of Waste Streams Discharged to Double Shell Tanks (DSTs):

These streams are from ongoing operations of the site and will need analysis for two requirements; verification of compliance to tank farm storage specifications (processing parameters), and determination of composition for regulatory based designation of the waste (hazardous waste designation). Processing parameter based analysis will be equivalent to current practice and should be predefined using laboratory "routine set" analysis. The analysis will be performed under the quality assurance requirements of NQA-1 with typical result turnarounds of 1 to 5 days. Results will be available via the laboratory reporting system (LCCS).

Analysis of the samples to meet the needs for hazardous waste designation will require more stringent quality assurance than for processing parameters. Those components that fall under both needs will likely be required to be analyzed by both protocols. Unfortunately, analysis turnaround times for designation will likely exceed needs for normal processing parameters. If processing parameter analysis results show a component to significantly exceed a hazardous waste designation limit (e.g., a sample is sufficiently caustic to qualify as a extremely hazardous waste based on corrosiveness) reanalysis of the sample under the more stringent protocols would not be necessary. In no case will analysis performed to processing parameter protocols be suitable for designation as an intermediate level or as nonhazardous waste.

DST Characterization Analysis:

All of these analyses will be required to be performed to hazardous waste designation protocols. Currently, no analytical capacity exists to perform Nb⁹⁴ analysis. This long lived (2x10⁴ y) beta emitter is not expected to be present in significant quantities and will require development efforts to analyze for. Addition of total beta (TB) analysis to the analysis request should allow for screening for significant levels of unaccounted for beta activity and assessment of the needs for additional specific beta emitting radionuclide component quantification.

Analysis for Pu^{238} at the 222-S Laboratory is complicated by the presence of this isotope in the spike (Pu^{236}) added to the analysis to allow correction for overall yield in the procedure. For most expected samples, Pu^{238} activity will be only a small fraction of the $Pu^{239/240}$ activity and may be approximated using isotopic ratios based on historical irradiated uranium processing.

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Samples having greater than normal Pu^{238} (e.g., associated with previous irradiated thorium processing) activity will be detectable using the current procedures. In these cases, Pu^{238} activity can be quantified either using a special analysis or through determination of isotopic ratios based on mass spectral analysis.

Analysis of Samples for the 242-A Evaporator:

All analyses identified in the Internal Memo appear to be for hazardous waste designation needs. It should be noted that analysis of the vent stack will require the installation of specialized gas sampling equipment.

General Comments:

Analysis of two major hazardous waste designation groups were not requested for any of the streams; semivolatile organics and Toxicity Characteristic Leaching Procedure (TCLP). If these analyses have not been assessed for inclusion in the requested analysis, it is recommended that they are reviewed for inclusion.

The current schedule for implementation of organic analysis capacity at 222-S Laboratory is for early in 1991, most probably after March 1, 1991. Until capacity becomes available at 222-S Laboratory, organic analyses (VOA and TOX) will be performed by the Pacific Northwest Laboratories (PNL). This will require transhipping of samples sent to 222-S Laboratory, but should not seriously affect result turnaround or quality.

Estimated cost information for the requested analyses is shown in Table 7. These costs are based on analysis of organic components at PNL. When organic capability is available at 222-S Laboratory, costs will be reduced slightly. Addition of semivolatile organic analysis to the lists would increase costs \$2000 per analysis. Addition of TCLP to the list would increase analysis costs \$1500 for those samples containing greater than 1% solids. For liquid only samples, no additional preparation is required for TCLP and the analytes of concern are already included in the analysis requests.

5.6 45,502

T. D. Blankenship Page 4 November 26, 1990

If you need any additional information or have any questions, please call me on 3-3869.

Richal J. Wein

R. L. Weiss, Principal Scientist Office of Sample Management

jmd

Attachments - 7

CONCURRENCE:

Date C. R. Stroup, Manager Analytical Laboratories

Briggs, Manager

Analytical Laboratory Complex

Date

TABLE 1 RECOMMENDED ANALYSIS MINIMUM QUANTITATION LEVELS for TANK FARM WASTE ANALYSES

Analyte	<u>High Salt</u> <u>Liquid or</u> <u>Solid/Slurr</u>	<u>Low Salt</u> <u>Liquid</u> Y	Analyte	High Salt Liquid or Solid/Slurr	<u>low Salt</u> <u>Liquid</u> Y
Analyzed by	Inductively	Coupled Plasma S	Spectroscopy (ICP)	
Al Ba B Ca Cr Cu Fe Pb Mg Hg Nd P Sm Si Na S Th Ti U Zr	50 2 20 0.2 5 20 10 30 0.1 5 250 50 200 100 60 60 20 30 1500 80	0.5 0.02 0.05 0.002 0.05 0.2 0.01 0.3 0.001 0.05 2.5 0.5 2 0.5 0.6 0.6 0.2 0.06 15 0.1	As Bi Cd Ce Co Eu La Li Mn Mo Ni K Se Ag Sr Ta Sn W Zn	20 100 2 100 20 2 20 3 2 5 20 250 100 30 2 50 2	0.2 0.5 0.02 1 0.2 0.02 0.3 0.02 0.05 0.2 2.5 1 0.3 0.02 0.5 0.02
As	5 5	0.05	Hg	3	0.03
Se		0.05			
_	sis by DIONE	X			
F NO ₃ PO ₄	6000 20000 10000	10 10 10	C1 NO ₂ SO ₄	4000 20000 10000	5 10 10
Specific Ana	alysis				
OH OH OH	5000 0.1 100 0.2	50 0.01 1 0.002	TOC(carbon) NH, TOX(chlorin DSC	5000	50 50 10

Values for solids are as ug/g
Values for liquids are as ug/ml
*DSC will be used to screen for the presence of exothermic reactions.
Specific quantitation limits are not required for this screening

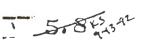


TABLE 2 RECOMMENDED ANALYSIS MINIMUM QUANTITATION LEVELS for TANK FARM WASTE ANALYSES

<u>Analyte</u>	Solid/Slurry	<u>High Salt</u> <u>Liquid</u>	Low Salt Liquid
Alpha Tota Beta Total	1 100 350	1 3.5	0.01 0.035
Radionuclio	des Analyzed by G	amma Energy Ar	nalysis
Co ⁶⁰ Cs ¹³⁷ RuRh ¹⁰⁶	4 5 50	4 5 50	0.04 0.05 0.5
Radionuclio	ies Analyzed by S	eparation with	Beta Counting
H ³ C ¹⁴ Nb ⁹⁴ Se ⁷⁹ Sr ⁹⁰ Tc ⁹⁹ I ¹²⁹	75 50 * 50 150 250 900	1.5 0.5 ** 0.5 1.5 2.5	1.5 0.25 ** 0.25 0.015 0.025 0.09
Radionuclio	ies Analyzed by S	eparation with	Alpha Counting/Alpha Energy Analysis
Pu ²³⁸ Pu ^{239/240} Am ²⁴¹ Cm ²⁴⁴	200 ¹ 50 100 100	2 ¹ 0.5 1	0.02 ¹ 0.005 0.01 0.01

Values for solids are as pCi/g Values for liquids are as pCi/ml

^{*} No current analysis capacity for ${\rm Nb}^{96}$ * Potential interference on ${\rm Pu}^{238}$ analysis from contamination in ${\rm Pu}^{236}$ spike added to the analysis

TABLE 3

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

•		Quanti	tation !	Inlts*
		MACCE		On Column
Pesticides/Aroclors	CAS Number	urll	UY/K.P	(00)
04 -1-1- 514		_		
98. alpha-BHC	119-04-6	0.05	1.7	5
99. beca-BHC	319-85-7	0.05	1.7	5
100. delca-BHC	319-06-8	0.05	1.7	5
101. gamma-BHC (Lindane)	50-09-9	0.05	1.7	5
102. Heptachlor	76-44-8	0.05	1.7	5
	1			
103. Aldrin	309-00-2	0.05	1.7	5
104. Heptachlor epoxide	1024-57-3	0.05	1.7	5
105. Endosulfan I	959-98-8	0.05	1.7	5
106. Dieldrin	60-57-1	0.10	2.3	10
107. 4,4°-DDE	72-55-9	0.10	3.3	10
•				
105. Endrin	72-20-8	0.10	3.3	10
109. Endosulfan II	33213-65-9	0.10	3.3	10
110. 4,4'-DDD	72-54-8	0.10	3.3	10
lll. Endosulfan sulfate	1031-07-8	0.10	3.3	10
112. 4,4'-DDT	50-29-3	0.10	3.3	10
		- •		
113. Methoxychlor	72-43-5	0.50	17.0	50
114. Endrin katone	53494-70-5	0.10	3.3	10
115. Endrin aldehyde	7421-36-3	0.10	3.3	10
116. alpha-Chlordans	5103-71-9	0.05	1.7	5
117. gamma-Chlordane	5103-74-2	0.05	1.7	5
				-
118. Toxaphene	8001-35-2	5.0	170.0	500
119. Aroclor-1016	12674-11-2	1.0	33.0	100
120. Aroclor-1221	11104-28-2	1.0	33.0	100
121. Aroclor-1232	11141-16-5	2.0	67.0	200
122. Aroclor-1242	53469-21-9	1.0	33.0	100
300 4 4 4045				
123. Aroclor-1248	12672-29-6	1.0	33.0	100 ,
124. Aroclor-1254	11097-69-1	1.0	33.0	100
125. Aroclor-1260	11096-82-5	1.0	33.0	100

^{*} Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment. calculated on dry weight basis as required by the contract, will be higher.

There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Pesticides/Aroclors.

(continued)		Quantitation illaies*			
			Low	Med.	On
i		AUCSL	5011	Soll	Column
Semivolatiles	CAS Number	ur/L	110/KB	ur/Xz	Ine)
69. Dibenzofuran	132-64-9	10	330	10000	(20)
70, 7.4.0inipropoluone	121-14-2	ìû	220	10000	(20)
71. Diechylphchalaca	84-66-2	10	330	10000	(20)
72. 4-Chlorophenyl-phenyl					
ether	7005-72-3	70	330	10000	(20)
73. Fluorene	86-73-7	10	330	10000	(20)
74. 4-Nitroaniline	100-01-6	50	1700	50000	(100)
75. 4.6-Dinitro-2-methylphenol	534-52-1	50	1700	50000	(100)
76. N-nitrosodiphenylamine	86-30-6	10	330	10000	(20)
77. 4-Bromophenyl-phenylather	101-55-3	10	330	10000	(20)
78. Hexachlorobenzene	118-74-1	10	330	10000	(20)
79, Pentachlorophenol	87-86-5	50	1700	50000	(100)
80. Phenanthrana	85-01-8	10	330	10000	(20)
01. Anthracene	120-12-7	10	330	10000	(20)
A2. Carbazole	86-74-8	10	330	10000	(20)
83. Di-n-bucylphchalate	84-74-2	10	330	10000	(20)
84. Fluoranthene	206-44-0	10	330	10000	(20)
85. Pyrane	129-00-0	10	330	10000	(20)
86. Nutylbenzylphthalata	85-68-7	10	330	10000	(20)
87. 3.3'-Dichlorobenzidina	91-94-1	10	330	10000	(20)
88. Benzo(a)anthracens	56-55-3	10	330	10000	(20)
89. Chrysene	218-01-9	10	330	10000	(20)
90. bis(2-Ethylhexyl)phthalate		10	330	10000	(20)
91. Di-n-octylphthalace	117-84-0	10	330	10000	(20)
92. Benzo(b) fluoranthene	205-99-2	10	330	10000	(20)
93. Benzo(k) fluoranthene	207-08-9	10	220	10000	(20)
94. Aenzo(a)pyrene	50-32-8	10	330	10000	(20)
95. Indeno(1,2,3-cd)pyrene	193-39-5	10	330	10000	(20)
96. Dibenz(a,h)anthracene	53-70-3	10	. 330	10000	(20)
97. Denzo(g,h,1)perylene	191-24-2	10	330	10000	(20)
sama (Pinis) har Jrame	a/a-44-4	~~ .	220	2000	(20)

^{*} Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

1		Quanti	tation		
			Low	Med.	On
a 1 . 1 . 11		Voter	5011	5011	Column
<u>Semivolaciles</u>	CAS Number	NE/T	Ur/Xz	UR/KR	(17)
34, Phenol	108-95-2	10	330	10000	(20)
35. bls(2-Chloroethyl) ether	111-44-4	10			(20)
36. 2-Chlorophenol	95-57-8		330	10000	(20)
37. 1,3-Dichlorobenzene	541-73-1	10	330	10000	(20)
		10	330	10000	(20)
38. 1,4-Dichlorobenzene	106-46-7	10	330	10000	(20)
39. 1,2-Dichlorobenzene	95-50-1	10	330	10000	(20)
40. 2-Methylphenol	95-48-7	10	330	10000	(20)
41. 2,2'-oxybis					(-0)
(1-Chloropropane)#	108-60-1	10	. 330	10000	(20)
42. 4-Methylphenol	106-44-5	10	330	10000	(20)
43. N-Nitroso-di-n-				_	(20)
dipropylamine	621-64-7	10	330	10000	(20)
44. Hexachloroethane	67-72-1	10	330	10000	(20)
45. Nitrobenzene	98-95-3	10	330	10000	(20)
46. Isophorone	78-59-1	10	330	10000	(20)
47. 2-Nitrophenol	88-75-5	10	330	10000	(20)
48. 2.4-Dimethylphenol	105-67-9	10	330	10000	(20)
49. bis(2-Chloroethoxy)					
methane	111-91-1	10	330	10000	(20)
50 2,4-Dichlorophenol	120-83-2	10	330	10000	(20)
51. 1,2,4-Trichlorobenzene	120-82-1	10	330	10000	(20)
52. Naphthalene	91-20-3	10	330	10000	(20)
53. 4-Chloroaniline	106-47-8	10	330	10000	(20)
JJ 4 GHIDI DEHLIZINE	100-47-8	10	230	10000	(20)
54. Hexachlorobutadiene	87-68-3	10	330	10000	(20)
55. 4-Chloro-3-methylphenol	59-50-7	10	330	10000	(20)
56. 2-Methylnaphthalone	91-57-6	10	330	10000	(20)
57. Hexachlorocyclopentadiana	77-47-4	10	330	10000	(20)
58. 2,4,6-Trichlorophenol	88-06-2	10	330	10000	(20)
59. 2,4,5-Trichlorophenol	95-95-4	50	1700	50000	(100)
60. 2-Chloronaphthalane	91-58-7	10 ·	330	10000	(20)
61, 2-Nitroaniline	88-74-4	50	1700	50000	(100)
62. Dimethylphthalate	131-11-3	10	330	10000	(20)
63. Acenaphthylane	208-96-8	10	330	10000	(20)
64. 2,6-Dinitrotoluene	606-20-2	10	330	10000	(20)
65. 3-Nitroanilina	99-09-2	50	1700	50000	(100)
66. Acenaphthene	83-32-9	10	330	10000	(20)
67. 2,4-Dinitrophenol	51-28-5	50	1700	50000	(100)
68. 4-Nitrophenol	100-02-7	50	1700	50000	(100)

[#] Praviously known by the name bis(2-Chloroisopropyl) ather

- 5.12+5 a 13 at

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

		Quanti	tation	limits*	
•			Low	Med.	On
		Water	5211	Soll	Column
Volatiles	CAS Number	uz/L	UR/KZ	VE/XE	(DZ)
1. Chloromethane	74-87-3	10	10	1200	(50)
2. Bromomethane	74-83-9	10	10	1200	(50)
 Vinyl Chloride 	75-01-4	10	10	1200	(50)
4. Chloroethane	75-00-3	10	10	1200	(50)
 Methylene Chloride 	75-09-2	10	10	1200	(50)
•					
6. Acetone	67-64-1	10	10	1200	(50)
 Carbon Disulfide 	75-15-0	10	10	1200	(50)
8. l,l-Dichloroethene	75-35-4	10	10	1200	(50)
1,1-Dichloroethane	75-34-3	10	10	1200	(50)
10: 1,2-Dichloroethene (total)	540-59-0	10	10	1200	(50)
11. Chloroform	67-66-3	10	10	1200	(50)
12. 1,2-Dichloroethane	107-06-2	10	10	1200	(50)
13. 2-Butanone	78-93-3	10	10	1200	(50)
14. 1,1,1-Trichloroethane	71-55-6	10	10	1200	(50)
15. Carbon Tetrachlorida	56,23-5	10	10	1200 .	(50)
	1				
Bromodichloromethana	75-27-4	10	10	1200	(50)
17. 1,2-Dichloropropane	78-87-5	10	10	1200	(50)
18. cis-1,3-Dichloropropens	10061-01-5	10	10	1200	(50)
19. Trichloroethene	79-01-6	10	10	1200	(50)
20. Dibromochloromethane	124-48-1	10	10	1200	(50)
21. 1,1,2.Trichloroethane	79-00-5	10	10	1200	(50)
22. Benzene	71-43-2	10	10	1200	(50)
23. trans-1,3-Dichloropropene		10	10	1200	(50)
24. Bromoform	75-25-2	10	10	1200	(50)
25. 4-Hethyl-2-pentanone	108-10-1	10	10	1200	(50)
04 0 4	501 75 (10	10	1200	(60)
26. 2-Hexanone	591-78-6	10	10	1200	(50)
27. Tetrachloroethene	127-18-4	10	10	1200	(50)
28. Toluene	108-88-3	10 .	10	1200	(50)
29. 1,1,2,2-Tetrachlorosthane	79-34-5	10	10	1200	(50)
30. Chlorobenzana	108-90-7	10	10	1200	(50)
31 Pakul Barr	100 /1 /		10	1200	(50)
31. Ethyl Benzane	100-41-4	10	10	1200	(50)
32. Styrene	100-42-5	10	10	1200	(50)
<pre>33. Xylenes (Total)</pre>	1330-20-7	10	10	1200	(50)

^{*} Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

TABLE 4 SAMPLE RESULT TURNAROUND TIMES

Laboratory analysis and quality assurance documentation, excluding validation, shall be limited to the following schedule:

Transuranic and hot cell analyses - 100 days annual average, but not to exceed 140 days

Low-level and mixed waste (up to 100 mr/hr) analyses - 75 days annual average, but not to exceed 90 days

Nonradioactive waste analyses - 50 days

Validated data packages will be issued within 21 days of receipt of the results by the Office of Sample Management.

WHC-SD-WM-DP-025 Addendum 14 Rev 0 TABLE 5

RESULT REPORTING / ALIDATION

The RCRA validation documentation package consists of the Office of Sample Management Data Validation cover sheet (different sheets for Level A. B, or C validation), supplemental Quality Control (QC) attachment pages, a copy of the Chain of Custody, and all sample data. One documentation package is completed for each sample or delivery group.

Three levels of validation are offered:

<u>Level A</u> The minimum requirement for all RCRA data. The primary application is for data used in waste designation/disposal. The additional QC required by SW-846 will be assessed through laboratory audits and Performance Evaluation (PE) samples.

. Review Requirements:

- o Requested Versus Reported Analyses
- o Analysis Holding Times

<u>Level B</u> Provides a more in-depth review for programs whose data are compiled for use in later reports.

Review Requirements in Addition to Those Listed for Level A:

- o Matrix Spike/Matrix Spike Duplicate Analysis
- o Surrogate Recoveries
- o Duplicate Analysis
- o Analytical Blank Analysis

Level C Requires that the data be reported in Sample Delivery Group (SDG) data packages and is applicable to RCRA governed programs requiring Contract Laboratory Program (CLP) quality data from analytical work done in non-CLP laboratories

Review Requirements in Addition to Those Above:

- o Initial and Continuing Instrument Calibrations
- o Gas Chromatography Mass Spectrograph (GC/MS) Tune Criteria
- o Internal Standards for Gas Chromatograph Analysis
- o Laboratory Control Samples
- o Interference Check Samples (for ICP analysis)
- o Any Other QC Checks Performed or Required by the Methods of Analysis

WHC-SD-WM-DP-025 Addendum 14 Rev 0 TABLE 6

VALIDATION CRITERIA - GENERIC DATA QUALITY OBJECTIVES

1. REQUESTED YERSUS REPORTED ANALYSES

All requested analyses shall be reported of accounted for.

2. HOLDING TIMES

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Holding times shall be equivalent to RCRA defined times. If no RCRA holding time exists, holding times will be 6 months unless specifically defined in project specific documentation.

SURROGATE RECOVERY

Sample and blank surrogate recoveries must be between 80 and 120%.

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A matrix spike or matrix spike duplicate must be analyzed with every analytical batch of every 20 samples, whichever is more frequent. Control limits will be between 75 and 125% with ±20% relative percent differences.

DUPLICATE ANALYSIS

Duplicate analysis must be performed with every analytical batch or every 20 samples, whichever is more frequent. Control limits will be ±20%. If both sample and duplicate results are below the method detection limit of sample quantitation limit, then no control limit applies.

6. ANALYTICAL BLANKS

A minimum of one analytical blank must be analyzed for every batch or every 20 samples, whichever is more frequent. No contaminants should be detected in the blanks.

7. INITIAL AND CONTINUING CALIBRATION

Analytical instrumentation shall be calibrated in accordance with requirements specific to the instrumentation and methods of procedures employed.

8. GC/MS TUNE

Ion abundance results and tuning frequency requirements must be as specified in the method employed for analysis.

9. INTERNAL STANDARDS

Internal Standard area counts and retention time differences from the associated calibration standard must be within the control limits specified by the methods or procedure used.

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TABLE 5 (cont)

10. LABORATORY CONTROL SAMPLE

All Laboratory Control Sample recoveries must be within 80-120% for all sample matrices.

11. INTERFERENCE CHECK SAMPLE

Frequency of analysis and all Interference Check Sample solution results must meet the requirements specified in the procedure used.

12. OTHER QUALITY CONTROL CHECKS

As specified in project specific documentation.

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TABLE 7 ESTIMATED COSTS

CHARACTERIZATION OF WASTE STREAMS DICHSRGED TO DOUBLE	SHELL TANKS
Analysis for processing parameters	\$500/sample
Analysis for hazwaste designation	\$5000/sample
DOUBLE SHELL TANK CHARACTERIZATION	
Analysis for hazewaste designation	\$10000/sample
ANALYSIS OF SAMPLES FROM 242-A EVAPORTOR	
Analysis of feed tank	\$5000/sample
Analysis of Process Condensate	\$2500/sample
Analysis of Slurry Product	\$5000/sample
Analysis of Steam Condensate	\$4000/sample
Analysis of Cooling Water	\$4000/sample
Analysis of Vent Gases	\$2000/sample

	TOU ON SO MOUNT	
	Westinghouse Hanford Company Pool Section of Energy NONG REPORT	CONFORMANCE Page 1 of 10 B 06110
	IFRIORG I FARMS OPERATIONS ITEM/MATERIAL HAVE	3 samples from TK-103-AP PART NO. NA
	200 E / AP Farm DRAWING/3PEC. NO.	
	PROGRAW/PROJECT	Evaporator Restart P.O.W.O. NO. IWITGCOE
	'	ste Characterization DATE 9/19/91
	Custody seals placed improperly, so that recipient was unable to detect if there was evidence of tampering with 3 samples. (222-5 Laboratories will not breakdown or analyze samples until this NCR is resolved.)	Attach Seal on Cash TO-080-030 C-Z B. 20 such that Seal must be broken to remove Sample.
	HW-27 PN-003 PRIORITY/SEVERITY: D3	Observal 4. Bisonius 28600 9/26/91 ORIGINATOR/D.Y. Bisenius ORGANIZATION DATE
	4. ASME CODE ITEM(e)	WHC
	MNO TYES NOTIFY AUTHORIZED INSPI	0.19
	S. CAUSE OF NONCONFORMANCE PROCEDURES PERSONNEL MATERIALS EQUIPMENT OTHERS TWARKS: proper placement of custody seal for environmental samples. 7. RECOMMENDED DISPOSITION ACCEPT BA. DISPOSITION JUSTIFICATION AND INSTRUCTIONS See page 2.	Gerations personnel that retrieve samples shall be reminded of the importance of proper custody seal placement. T.W. 11/26/91 See page 2. INITIATION DATE SERIAL NO. FRESPONSIBLE ORG. REP. TITLE DATE REJECT REPAIR REWORK OTHER 9. ADDITIONAL REVIEWS REQUIRED (WHC ONLY) IF YES, IDENTIFY: Vida Johansen
\vdash	B. SUPPLIER ENG. N/A SUPPLIER CA O. DISPOSITION APPROVAL (WHC ONLY) APPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) P. G. Haigh OS NOU A COGNIZANT ENGINEER 78420 DATE J. J. Verderber: DATE AUTHORIZED INSPECTOR REVIEW DATE	N/A APPROVALS TITLE DATE NAME TITLE DATE THACK JONG CILUTO IIA
13	DATE DATE	оту. яел. 5, 20 гольом ом нся

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A C

NONCONFORMANCE REPORT	Page	Part	NCR
CONTINUATION SHEET)	2 of 2	No.	No. <u>B06110</u>

IDENTIFY EACH CONTINUATION BY THE BLOCK NUMBER FROM THE FIRST PAGE

8A. DISPOSITION JUSTIFICATION AND INSTRUCTIONS

Samples 3AP891-1 and 3A891-2 will be accepted because the custody seals were over the locking pins. The seals would have to be broken to open the sample pig. Sample 3AP891-3 is rejected because the seal was place flat on top of the pig. A new sample will be taken for analysis.

Sample 3AP891-3 shall be disposed of by laboratory personnel in accordance with their approved procedures. Upon disposal, laboratory personnel shall notify Quality Assurance via DSI that the action has been completed for NCR closure.

6. CORRECTIVE ACTION TO ELIMINATE CAUSE

Have supervision verify that each worker is capable of applying custody seals through demonstration. $7.02 \ ///2 \ 6/9/$

WHC-SD-WM-DP-025 Addendum-14 Rev 0 SAMPLE CHECK IN LIST

Date/Time Received $9/21/91$ OG/O Sample ID $3AP \xi 9/-1$
Project TK 103Ap Client 241 Tan Jan
Shipping Container ID# $\overline{TF-6}$ Shipping # $RO/19$. 1. Condition of Shipping container? $Good$
2. Custody Seals on container intact? Yes [] No X
3. Custody Seals dated and signed? Yes 📈 No []
4. Custody Seals ID # 3003
5. Condition of Samples: in good condition
broken
leaking
6. Samples have: custody seals
appropriate sample labels
7. The following paperwork should be accounted for (N/A if not applicable): Chain of Custody #(s) f(s) Request for Special Analysis #(s) w
8. Have any anomalies been identified? Yes No []
9. Memos have been initiated for all anomalies identified? Yes []
Printed Name VIDA JOHANSEN
Signature Vala Johansen
Date/Time 10/2/91 0800
Please send copy to Office of Sample Management Data Administrator, T6-08
9/23/91 Custody seal not attached properly: to P. making the Sample integrity questionable
Paul Haigh was notified and on NCR generaled by Selvie Bismin - 5.22
Generalis of
10/2/9, C.C.: rail sent to Delbie Bisinus 11-5-91 - telephone men: Paul Haigh: Alug accept Sample for analysis
11-5-91 - telephone mess: Paul Haigh. 5.23

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6. ...

SINGLE SHELL TANK PROJECT Analytical Detection Limits October 12, 1990

The following detection limits are derived on ideal matrices. These values were derived by using either calibration standards or pure matrix standards. Detection limits on actual single shell tank samples are likely to be much higher. No information regarding procedure detection limits is available for procedures not listed in this report.

Procedure LA-355-131
Arsenic Analysis by Hydride Generation Atomic Absorption

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Detection Limit = 0.005 ppm in solution

Typical sample dilution for the Fusion Dissolution was 0.0025g/mL.

Typical sample dilution for the Water Digestion was 0.010g/mL.

Typical sample dilution for the acid Digestion was 0.010g/mL.

Procedure LA-325-102
Mercury Analysis by Atomic Absorption Manual Cold Vapor Technique

Detection Limit = 0.002 ppm in solution
Typical sample dilution for the Fusion Dissolution was 0.0025g/mL.
Typical sample dilution for the Water Digestion was 0.010g/mL.
Typical sample dilution for the acid Digestion was 0.010g/mL.
Solids were analyzed directly.

Procedure LA-362-131 Selenium Analysis by Hydride Generation Atomic Absorption

Detection Limit = 0.005 ppm in solution

Typical sample dilution for the Fusion Dissolution was 0.0025g/mL.

Typical sample dilution for the Water Digestion was 0.010g/mL.

Typical sample dilution for the acid Digestion was 0.010g/mL.

Procedure LA-533-105 Anion Analysis on Dionex Model 40001

Typical sample dilution was 0.000099q/mL

Fluoride

Detection Limit in solution = 0.09 ppm.

Chloride

Detection Limit in solution - 0.04 ppm.

Nitrate

Detection Limit in solution = 0.24 ppm.

Phosphate

Detection Limit in solution - 0.13 ppm.

Sulfate

Se su

Detection Limit in solution = 0.13 ppm.

Procedure LA-622-102
Determination of Carbonate in Solutions by Coulometry

Detection Limit = 5 ppm in solution Typical sample dilution was 0.01g/mL

Procedure LA-344-105
Total Organic Carbon
Determination of Carbon Insolation by Combustion and Coulometry

Detection Limit = 5.5 ppm in solution Typical sample dilution was 0.01 g/mL

Procedure LA-695-101 Cyanide = 0.1 ppm (

Cyanide - 0.1 ppm CN in solution Spectrophotometric Determination of Cyanide

Procedure LA-634-102

Ammonia = 0.1 ppm NH₄ in solution Ammonia by Kjeldahl

Procedure LA-645-001

Nitrite = 0.184 ppm NO, in solution Spectrophotometric Determination of Nitrite

Procedure LA-265-101
Chromium VI = 0.1004 ppm Cr⁵⁺ in solution
Spectrophotometric Determination of Hexavalent Chromium

Procedure: LA-505-151 (Nominal Detection Limits)

Inductively Coupled Plasma (ICP) Emission Spectrometer Operations and Analysis.

Typical sample dilution for the Fusion Dissolution was 0.00019 g/mL.

Typical sample dilution for the Water Digestion was 0.000476 g/mL.

Typical sample dilution for the Acid Digestion was 0.000476 g/mL

Instrument Detection Limit ppm.

Vanadium o oips			Antimony Barium Bismuth Cadmium Cerium Cobalt Europium Lanthanum Lithium Manganese Molybdenum Nickel Potassium Selenium Silver Strontium Tantalum Titanium Uranium Zinc	0.142 0.002 0.083 0.003 0.135 0.024 0.002 0.014 0.003 0.0015 0.014 0.0183 0.0183 0.0102 0.0122 0.0035 1.1405
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SAMPLING AND CUSTODY DATA

7

TANK FARM PLANT OPERATING PROCEDURE

	СНА	IN OF CUSTODY		
Company Contact	Paul Haigh	Telaphone	373-4	1655
Bill of Lading Ho.	N/A	Offsite Property No.	N/A	
Hethod of Shipment	B-Plant Sample	Truck		
Shipped to	222-\$ Lab			
	SĀM	PLING INFORMATION		
Sample Collected by	J. TUCKSON J. PAGNE	Date	10-9-41	Time 0625
Sample Locations		, Riser #28	Custody Seal #	4249
Remarks	46'0"			
ice Chest or Sample Pig Ho.	TF-4	Field Logbook and Page No.	N/A	

SUPERVISION REVIEW	: Kflight	DATE: 10-9-91
	SAMPLE IDENTIFICATION	
3AP891-10 R-128 (K	sample Schedule Number 242-A Statement of Work WHC-SOW-91-0002	

CHAIN OF POSSESSION	
Received by: Rid PSho	Date/Time: 10-11-91/1809
	Date/Time: 10-11-91/1900
Received by:	Date/Time:
Received by:	Date/Time:
	Received by: Rich Roman Received by: Received by: Received by:

TO-080-030	Rev/Mod C-3	Page 16
10-080-030	-	

WHC-SD-WM-DR-025 Addendum 14 Rev 0

SAMPLE CHECK IN LIST

SAMPLE CHECK IN LIST
Date/Time Received 10-11-91 / 1900 Sample ID 8123 3 AD 891-10
Project 242-A SOW 91-0002 Client Paul Haugh
Shipping Container IDATE-4 Shipping A R 128
1. Condition of Shipping container? OE
2. Custody Seals on container intact? Yes [No []
3. Custody Seals dated and signed? Yes [No []
4. Custody Seals ID # 4249
5. Condition of Samples: OK in good condition
broken
leaking
6. Samples have: <u>No</u> custody seals
appropriate sample labels
7. The following paperwork should be accounted for (N/A if not applicable):
Chain of Custody #(s) 4es.
Request for Special Analysis #(s)
8. Have any anomalies been identified? Yes [] No [>]
9. Memos have been initiated for all anomalies identified? Yes []
Printed Name Vina Johansen
Signature Vila Johansen
Date/Time 10/19/91 0500

-

Please send copy to Office of Sample Hanagement Data Administrator, T6-08

WHC-SD-WM-DP-025

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		Addendum I	4 KeV- U		** -
RIZE	3 R 045	_ LABORATORY ID	Date Sam	oled	Time Sampled COF
Sample Site or	Sampling ID		Date Rece	ived at 222-S	Time Received at 222-5
1/13	AD RISE	0 × 28 0 46	24 10-11	.91	1900
Delivered by (Signature)	- RPT Reid	ease (Signature)	Dose Rate
B	.a. Hoch	le Of	walki)	20,5
Custodian (Sig	und akite	e # 28 0 46 RPT Reli	Date Anal Complete	ysis	Disposal Date
Comments					Cof C
3 A F	Tech/Recei	SEAL# 4249	7	Transcada	, , , , , , , , , , , , , , , , , , , ,
Payroll No.	recrykecer	ver (Signature)	Date	Entry Code	Comments
	Sample	archirel	room	DB 3	101/92
					-
					,
		· · · · · · · · · · · · · · · · · · ·			

					<i>\(\tau\)</i>		
	DATE	TIME	TIME IN	TINU F	SAMPLE ID.	TECHNOLOGIST SIGNATURE	PAYROLL NUMBER
	12-3%-7:	10:00	1/20	7	R.753,754	B)alay LMasai	87016
	1-28-42	1000	1030	24	R-935	ELC-	80027
	1-28-97	1030	1230	COLO	R-785	Elleh	0002A
and B. I'an	1-28-92	53775			D-13	bolom have	45833
78	1/28/32	Ü	2000	35	1183 -89 Digest	Teres d. fra &	67768
	1-28-92		2000	18	Ray, 8942, 8943	Lenda Contin	60949
	1-28-92		2315	17	N-8, N-97 N-10	4/3/1/1/1/	82577
			2000	18	R-941, R+42, R-945 R-944 R-845	Toss Solbuld.	82020
	1-29-92		2245	17	N-16, N-17; N-18	1/37/ille	82577
)		0830	24	R-933-934	Elch	80028
	130-92		0830	18	R-935-937	Ed Col-	80027
2 A No.	1-30-92	13:30	13:50	hef.	R\$141	Did Inla	6c275
Page:	1-30-92	1:30	10,20:	34	R-115Z	JAW Jull	64483
. ^>	1-30-92	1425		35	1230-242	Teres Sitres in	67768
***** I	1-30-52	1425		35	1553-554	Teres of Francis	67768
F0.9	1-3-12	01:15	14:10	18	R144. R145	5. 4.	60916
ma-sectal	2-1-92	0045	0230	Frig	R1141	Jerry M. Kunkel	80518
Eq. year	3-1-92	18:35	22:30	28	十8895	Waleri LM assi	820/6
	2-3-42	0730	0800	18	R-941-945	Edlata	70028
	2-3-92	8745	0750	28	788 52 Fus 2 788 69 F15	5 Rath	64865
	23-92	(745	1400	Try 5	R1141	tulane beger	6583
	2-7-9,	c8:ct	15:00	123.37	R423 429 425	·Sue F	10916
	2/3/82	13/0	1335	40	J84 J245	Terese hitrace	67768
	2/3/82	1350	1430	46	R1141	Tures Litia un	1.7768
	2-3-92	17:15	18:50	17	N-61	1) Me ve DA rai	82014
	5-3-72	18:50	21:15	17	N-62	Unlow dinasa	82016
	2-3-92	21:15	23:00	17	N-63	Valeri Emasois	82716
	2-4-92	0880	1308	17	N-28+20	Lulyan laser	LT 823
14	2-4-92	08:40	14:30	17	N35.42.41.44	Sue Zaj	60916
	2-4-92	1000	10 40	40	5163-5 158	S. B. Kunkler	60368
	2/04/92	10:15	13:05	32	SIXCOSIO	A SHEEP	6-B090
{[1-11-1	12117	15.00		100.010		14 - D 14

WHC-SD-WM-DP-025 Addendum 14 Rey 0 SAMPLE IN/OUT LOG



	ĭ						
	DATE	TIME OUT	TIME IN	UNIT #	SAMPLE ID.	TECHNOLOGIST /SIGNATURE/	PAYROLL NUMBER
	1-14-92		17:50	28	T-8760	Folkenchan!	82370
	1-15-92	02:10	02:40	20	R-1067	Valent ZMessy	82016
	1-15-92	0730	1230	6010	R-607-610	Ed Coh	80028
	# 48.V	/\~				1	
	1/15/92	08:00	13:10	3-2	5/1×00110	James 1	68090
	1/15/92	0500	0825	70	R1080 R1067, R1076	Jula Luga	60823
	1/15/92	10:30	13:25	20	R. 1067	Su Li	60716
	1.15-92	11.15	1(35	30	1 8852	Jerry M. Kurkel	80518
21	1-15-92	1140	1305	28	T-8760	Mon Flight	82577
<u> </u>	1-15-92	1230	1430	20	R 1023, 1069, \$583	Mary Fran	1.C269
7.7	1-15-92	11:00	13:10	22	N1086	Sue Lei	10116
	1-15-12	13:10	13:20	16	R1070	Su Yai	60916
	1-15-92	13:20	13:25	28	T-8760	Jeff Solhach	82020
100	15/52	1400	1500	20	T1076	MB-,	60559
11	1-15-92	1700	1900	Shelf	P303	Souther LHord	82372
20,200	1-15-52	1700	1900	shelf	36508-15	Sandre - Lithod	82372
0.1	1.13-92	17:35	17:40	shelf	36202	Sondra Stord	82371
	1-76-92	00:10		28	T 8852	Value & Masie	82016
20	1-16-92	10:15	13:30	دد	R 1085, 1086.10-p	Some Lai	. 60716
	1-16-92	1000	SAMPLE USE O	COLD	R-994	Ed Cohm.	80028
	1-16-92	10:30	17:45	Frig.	R959-961	DOAR Juke	BC275
	1-16-921	10:45	11:00	74	16933-934	De & J. Jun	60275
	1-11,-77.	1075	11:00	18	8935-937	Dall R Sak	6c275
	1/10/12	1045	1115	20	R-1030	My Same	62553
	1-16-92	1100	1105	28	R885Z Fusin	Soft Cart	64965
	1-11-92	1/2 80	11:10	18	R9 41- 945	WAR Stakes	6.075
	1-11-97	11:10	11:25	29	5676	Qui si bale	60775
	1-16-17	11:10	11:25	25	B6126, B6157 B629, B6233	Dalky.	61275
	1-14-72	11:10	11:25	25	B 612 E, B6157 B62M, B6233 B6408/56444 B6481	Don I R! Varkan	60275
	1-16-92	11:15	11:35	28	B8852	1521:411	82577
	1.16.92	1315	1370	30	B8852	Gerry M. Kunkel	30518
15							

WHC-SD-WM-DP-025 Addendum 1.4 Rev 0 SAMPLE-IN/OUT-LOG

i							1
*	DATE	TIME OUT	TIME IN	UNIT #	SAMPLE ID.	TECHNOLOGIST SIGNATURE	PAYROLL NUMBER
	1-2-72	08:10	11:00	# 44	J213~ J215	Sue Li	60916
	1-2-92	08:15	1415	Fria 5	R965-7967	Julem Lugen	6583
	1-2-92	0840	12/15	χ.	R959-79(21	Julan Lica	6023
	1-2-9-	08:45)8-24-92		1994 - R999	-)8-48-74	
	1-2-92	08:45	15:00	stelf	R194- R999	Sue La	(c916
	1.2.92	10:55	11:05	Shelf	5-988	Sandra Lttrox	82372
	1-2-52	13:30	15:05	Shelf	U4552 U4553	Teres of France	67768
	1-2-52	1330	15:05	dell	B/002-7 (Terese & Frage	67768
	1-2-92	13:10	15:05	25	B6444, B6408	June Granier	67768
:0	1-3-92	0745	0900	Fra 5	R902 thru 900 950 thru 961	Julan liger	6083
75	1-3-42	0744	0830	COLD	R-1010-1012	El Cal-	80038
100	1-3.92	0800	0830	18	R949	8 Cutter	64965
to My	1-3.96	0900	1500	Frig 5	2959-761	Inland Junes	65823
N?	1.3.96	0915	0940	14	P351	Aulgon Junea	しここと
. /*	.392	15:30	22:10	FZiONE S	R 861,863		82580
	160	10	- Carlon State	THI NOT 3	\$70 857	1 12	02000
· James	V-03-92	1800	3-13-32		P949	SLCotto	82283
and a	L		22.10			SLC obb	1
	V-03-92	1800	3815	18	P949		87283
	1-8-92	1800 18 30	22:10	18	R949	1. WE	82580
emine	1-11-92	1800 1830 0010	22.10 0030	18 18 18	R949 R949	Jerry M. Zunkel	82583 80518 80518 81858
**************************************	1-4-92 1-4-92	1800 18 30 0010 0030	22:10 003 0 0615	18 18 18 5heff	R949 R949 R949 R994- 999	Jerry M. Zunkel Jerry M. Zunkel	82583 82580 80518 80518
emine	1-4-92 1-4-92	1800 1830 0010 0030 0030	22.10 003 0 0615 0130	18 18 18 5hef 18	R949 R949 R949 R994- 999 R941- 945	J. UEE Jerry M. Zunkel Jerry M. Zunkel Lywingen	82583 80518 80518 81858
emine	1-4-92 1-4-92	1800 1830 0010 0030 0030	22.10 0030 0615 0130	18 18 18 5hef 18	R949 R949 R949 R994- 999 R941- 945 L949	Jerry M. Kunkel Jerry M. Kunkel Ang Norgali Jen Sollwick	82583 80518 80518 81858 81020
emine	1-4-92 1-4-92 1-4-92 1-4-92	1800 1830 0010 0030 0030 0245 1800	22.10 0030 0615 0130 0310 1830	18 18 18 5hef 18 18 18 24	R949 R949 R949 R994- 999 R941- 945	Jerry M. Kunkel Jerry M. Kunkel Ang Norgali Jen Sollwick	82583 80518 80518 81808 81020 82583
**************************************	1-4-92 1-4-92 1-4-92 1-4-92 1-4-92	1800 1830 0010 0030 0030 0245 1800	22.10 0030 0615 0130 0310 1830 2045	18 18 18 5hef 18 18 18 24 18 Refeig	R949 R949 R949 R941-945 R941-945 L949 R949	Serry M. Kunkel Jerry M. Kunkel Ag Ningell J. M. Sollinck Se Cobb Se Cobb	82583 80518 80518 80518 81858 81020 82583 82583
**************************************	1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 0-01-92	1800 18 30 0010 0030 0030 0245 1800 1930 1930	20:10 003 0 0615 0130 03:10 1830 20:45 20:45	18 18 18 5hef 18 18 18 24	2949 R949 R949- 999 R941- 945 £949 £949 £949 £935,936,937 £934	Jerry M. Kunkel Jerry M. Kunkel Ang Norgali Jen Sollwork Se Cobb Se Cobb	82583 80518 80518 81858 81020 82583 82583
emine	1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 0-01-92 1-5-92	1800 18 30 0010 0030 0030 0245 1800 1930 1930 0015	20.10 003.0 0615 0130 103.10 1830 2045 2045 0645	18 18 18 5heff 18 18 18 18 24 18 Refsig Refsig Refsig	R949 R949 R949 R941-945 £949 C949 C935,936,937 C935 R902-906 R965-967 S-213,14,15	Serry M. Kunkel Jerry M. Kunkel Ag Ningell J. M. Sollinck Se Cobb Se Cobb	82583 80518 80518 80518 81858 84020 82583 82583 82583 80518
emine	1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 1-5-92 1-5-92	1800 18 30 0010 0030 0030 0245 1800 1930 1930 0015 0020	20:10 003 0 0615 0130 03:10 1830 20:45 06:45 06:45	18 18 18 18 19 18 18 18 18 18 18 18 18 18 18 18 18 18	2949 R949 R949 R941-945 £949 2949 2949 2935,936,937 2934 R 902-906 R965-967	Jerry M. Kunkel Very M. Kunkel Ly Norge W. Ju Sollwick Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Valorie Ly Navalli	82583 80518 80518 80518 81858 81020 82583 82583 82583 90518 32577
	1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 01-01-92 01-01-92 1-5-92 1-5-92	1800 18 30 0010 0030 0030 0245 1800 1930 1930 0015 0020	20:10 003 0 0615 0130 03:10 1830 20:45 06:45 06:45 01:35	18 18 18 18 18 18 18 18 18 18 18 18 18 1	2949 R949 R949 R941-945 £949 2949 2949 2934 R 902-906 R965-967 S-21314,15 E959,2212	Serry M. Zunkel Jeny M. Zunkel Ag Nagel Secolo Sec	82583 80518 80518 80518 81858 81020 82583 82583 82583 80518 30518 82020
	1-63-92 1-1-92 1-4-92 1-4-92 1-4-92 1-4-92 01-01-92 01-01-92 1-5-92 1-5-92 1-5-92	1800 18 30 0010 0030 0030 0245 1800 1930 1930 0015 0020 0035 11:30 18:40 0012	22.10 003 0 0615 0130 0310 1830 2045 0645 0645 0135 0335 18:40	18 18 18 18 18 18 18 18 18 18 18 18 18 1	R949 R949 R949 R941-945 £949 C949 C935,936,937 C935 R902-906 R965-967 S-213,14,15	Jerry M. Kunkel Very M. Kunkel Ly Norge W. Ju Sollwick Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Valorie Ly Navalli	82583 80518 80518 80518 81858 81020 82583 82583 82583 80518 30518 82020 82010
enercing	1-63-92 1-1-92 1-4-92 1-4-92 1-4-92 1-4-92 1-4-92 1-5-92 1-5-92 1-5-92 1-5-92	1800 1830 0010 0030 0030 0245 1800 1930 1930 0015 0020 0035 11:30 18:40 0012 837	20:10 003 0 0615 0130 1830 20:45 20:45 06:45 01:40 19:15	18 18 18 18 18 18 18 18 18 18 18 18 18 1	R949 R949 R949 R941-945 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949 £949	Jerry M. Zunkel Very M. Zunkel Ly Wayek Ju Sollwick Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Se Cobb Valorie de Vinavaire Valorie de Vinavaire Valorie de Mason	82583 80518 80518 81808 81808 81808 82583 82583 82583 80518 52577 82010 82016

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WHC-SD-WM-DP-025 Addendum 14 Rev 0 SAMPLE IN/OUT LOG

	TIME	TIME	UNIT		TECHNOLOGIST	PAYROLL
DATE	OUT	IN	#	SAMPLE ID.	SIGNATURE	NUMBER
1-6-91	0800	11.50	18	R941-945		65731
1-6-91	0800	1430	25	B 6481	Jandra Hord	32372
1-6-91	0800	1400	Cold	R494-499 R-902-706	Mary Train	6.C.21.9
1-6-92	0300	1030	5		El Colo	80028
1/6/92	0850	1300	24618	24 8.2742 CR33 → 937	La nosellan	81 XOZ
1/6/92	10:00	11:00	70	RIFI	Sue Lai	60716
1/6/92	11:46	12:00	18	R941-945	Da'DR, July	60275
16/92	1445	1450	18	K949	SYICATION	64965
1-06-92	1630	1700	5	2960,961	Sicobb	82583
01-06-2	1830	20:30	5	R1015	SLCOBB	82583
7-6-67	3000	20:10	25	B 6481	1) alen IMassig	82016
01-66-92	18:00	22:45	FRIDUE 5	2-959-967	A. le	82580
01-07-92	0100	0415	FR1068	R-941-5	Con Fight	82577
1-7-92	0820	1030	47 1.111	R-929	S.B. Kupfeler	60368
1-7.92	0830	19430	2448	R933 > K737	far utilat	81808
1-7-42	1030	1400	40	547862 551	I. B. Kunklen	60368
1-7-92	14:30	14:50	20	R551	Sue Lai	60916
1-8-92	8000	0032	18	R919	hoy willing le	81808
1-8-92	0015	0030	7	OR 783	Jerry M. Kunkel	80518
1-8-92	0015	0030	281.7.4	T8526, T8579	Jerry M. Kunkel	80518
1-8-92	0015	0030	Refrey	R 1015	Jerry M. Kunkel	80518
1-8-12	0000	0230	18	R-941	Jeff Solback	81090
1-8-92	0730	0930	5	R-1021	Est Colyan	80027
1-8-92	0730	1030	5	R959,60,61	Jeffes	65731
1-8-92	0830	0900	24/48	R933-737	helpen Lugar	60823
1-8-92	0845	0850	18	R-949	for utselven	81805
1-8-92	0900	11:10	24/18	R933737	Sixlai	60916
1-892	6000	0915	7.831,00	R941 747	Julane Juga	LET3
1.8.97	1100	12-10	18	R943-744	Lulamy Luger	60873
1-8-12	09100	11: 00	2#/18	R133 -> 127	45) B. 2492	
11-8-92	1315	1510	40	786-651	S. B. Kunkler	60368

(3)

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5.73

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WHC-SD-WM-DP-025 Addendum 14 Rev 0 SAMPLE IN/OUT LOG

DATE	TIME	TIME IN	UNIT	SAMPLE ID.	TECHNOLOGIST SIGNATURE	PAYROLL NUMBER
1-9-92	0015	0045	7	R 941 - 744 R 765, R 766, R 78.3	Jerry M. Kunkel	80518
1-9-92	0045	0100	20	R 1049	Perry M. Kunkel	80518
1-9-92	0730	18800	20	R-1021	Pet Colo,	70027
1-9-92	8:10	9,00	Ref. #4	R959-9671292	Waigh laken	6CZ75
1-9-92	8:15	9:N	25	B6408,6444,681	Day R. Jake	60275
19-92	830	27400	· ¬ "	R1043, 46, 44,	M. Frage	LC 269
1 9-92	11:20	11:25	Ref.	R95708965	Dide Inh	64275
1-92	12:15	1330	40	699 754	S. F. Kunkler	60368
1-9-92	1340	1415	40	701 696	S.B. Kunkilen	60368
1-9-72	13.50	14:05	ROFY	K959, R765	Dalf R. Jaka	6(2)
9 9-92	1415	1500	40	767 759	S. B. Kuntler	60368
1-9-32	17:50	18:35	delf	5-1015/1076	Sonora-Ittord	82372
1-1-12	11:10	14:30	Shelf	K 10 55 (1285)	Su Li	60716
1-10-92	0130	0200		2941-745	tuin type	1.5853
110.90	16:30	16:45	shell	u 4593/4591	Sondre Attor	72372
1-12-13	03:30	D 6:52	好作	1048 1011	Valout Allani	62016
1-13-72	00:30	05:30	# 6009	5-1048, 1047	Unlour J. Marie	91003
1-13-92	0715	0720	40	9-11 2164	S.B. Bunkler	60368
1-13-97	0720	0750	40	701 696	S. B. Kunkler	60368
1-13-12	0750	0930	40	697 698	& & Kunkler	60368
1-13-92		8:20	F1:3.	R 90 2,90,909 R 969,960,961	Deid R. Jack	6 c 275
1-1382	8:20	8:20	Firs.	R965-67	Deid Rych	60275
1-12-12	1:20	8:30	25	86408,6444	16) and Roberta	60375
1-13-92	10:00	15:00	18	141~ 945	Syn Ga:	61916
1/13/92	10100	13.30	32	51X 0110-51X30	J-Stropp	LaB090
1/13-92	11:20	11'25	FYIS	R959,8965	Walk-Jah	61775
1-13-92	1300-	1400	20	RIDOT	belong tryen	62833
1-14-92	02:45	06:15	#68mg	R-1042-1052.	Valene & Maril	83014
3-11-22	92800	08.20	Prigb	£1042-1052	Lula Luga	6C823
139-14.5	1-179/17)	1100	20	R10:0,1086	nicry-Trice	60269
1-14-42	0950	0940	7.3	12413 R414	John Smith	65256

	REQUEST FOR SPECI	AL ANALYSIS (RSA)	
(1) Sample Point D-A 5 4	(2) Date/Time Issued	(3) Date/Time Required	(4) Charge Code (5) Work Package
Set No. 2		11-26-91	INIA160LØI
(6) Number Dose Rate mRad/Hr of Samples	3AP891-1 3AP891-8	(a) Laboratory LD	19) Requester Name Phone P.G. Haigh
10 3MP 1191-1	13AP891-2 3AP991-9		3-4655
(10) Release	3A P841-4		(11) Volume of Sample
RPT	3AP891-7		100 mL
(12) Determination	(13) Expected Range	(14) Minimum Detection Level	(15) Method
a Silver (Ag)		5mg/L	
MA Aluminum (AL)		50 mg/L	
m Barium (Ba)		2mg/L	
m Cadmium (Cd)		1 mg/L	Actual State of State
Thromium (Cr)		5 mg/4	nacione a selection of the second
Lyon (te)		lang/h.	
agnesium (Mg)		1 mg/6	12 (1985) 1
Manganese (Mn)		60ma/L	15.7.15
Lead (Pb)		5 mg/L	PAID
Zinc (Zn)		2 ma/L	
Total Inorganic Carbo	И	5000 mg/L	AND
Liquid mixed waste reactor fission prounds nitrate, nitrite, pho	resent) in Podioactive contami roducts. Possible de s. Hydroxide - pH=12 sphate, carbonate and m, cadmium.	ination: natural, action toctable halogenate is orgreater. Anion sulfate. Metals-cal	vation products and dand non-halogemite s- sodium salts of cium and potassium
(17) Radioattivity Level (Actual 🗍	Estimated (1)	(18) Additional Information (Measure Pertinent Information) £ 25%	mant lineartainte de Cithat !
Total Alpha Total Betä		100%	THEOLISION PACCURACY
Total Gamma	h CIV	(20) Samples Received ,	The get
EPHHANNE COLF		From .	Oleita (2 pt.) Military
Coratory Managar		(21) Distribution of Final Results Samp Minimum Storagetim Customer will direct	le Disposal Instructions Q-until April, 1992. OSM re: Sample

REQUEST FOR SPECIAL ANALYSIS (RSA)

	KEQUEST FOR SPECI		
(1) Sample Point	(2) Date/Time Issued	(3) Date/Time Required	(4) Charge Code
-D-424		11-26-91	(5) Work Package
Set No.2		11 20 11	IN/A/60/01
(6) Number Dose Rate mRad/Hr	(7) Customer I.D.	(8) Laboratory I.O.	(9) Requester Name/Phone
of Samples	3AP89H 13AP891-7		P.G. Haigh
10 1	3 AP891-2 3AP891-8		3-4655
(10) Release	3/1 3/3/AP891-9		(11) Volume of Sample
A THITTING V	34 pg41-4 3AP891-10		
RPT	3A P891-6		100 ml
(12)	(13)	(14)	(15)
Determination	Expected Range	Minimum Detection Level	Method
Total Ammonia		500mg/L	34089 - 1 8986
Fluoride hu IC		6,000 ma/L	34891 38934
Chlorida Luto	·	4.000m8/L	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Nithita h. TC		5000 400/1	-1.100 BUILDING
"Husto L. TC		FOOD WILL	24080 4 002
THAT DY +C		10 Ald I	A neg 1 / 100 mg
Phosphate by IC		10,000 mg/L	-1.1- to the transition of the fill
Alfate by IC		10,000 mg/L	
Hydroxide	distinct and the second	0.1 M	F3:15) 71 4 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Total Organic Carbon		500 ma/L	54:164:14 - 12:49:14
Volatile Organic Andrsi		Exhibit G, JCLP-50W	CZ-1648FILMOLRYL
Semi-Volatile (A/B/N)		Exhibit C, CLIPASOW	
Cymide (CN)		O.Olma/L	
(16) Matrix (Other Metals or Anions P	resent)		All and the 15 th Boards
Liquid mixed was	resent) te. Radioactive co	ntamination natur	distribution product
and reactor fissis	on products, Possib	le detectable na loge	hatea and non-rian
hitrate nitrite, phos	on products, Possib s. Hydroxida - pH= phate, carbonateand su	12.30) group er, An	mand polassium salt
read. Chromium	CONTROL STATE	the state of the Atlanta Contract of the Santa Contract of the San	the cold that a state to will be all the cold in
(17) Radioactivity Level (Actual 🗍 Total Alpha		(18) Additional Information (Measure Pertinent Information) 土 257	ment Uncertainty or Other La Directed by Hacklings
	μCIΛ		
Total Gamma		and less to describe the second second second	
and the second s		(20) Samples Received	A series of the
Indimeted Cork	. 4	From	CHARLES THE COLUMN TO THE COLU
Colatory Manager		(21) Distribution of Final Results Samo	le Disposal Instructions
		(21) Distribution of final Results samp Minimum Storage the Customer will direct	MQ - Until April-1992

REQUEST FOR SPECIAL ANALYSIS (RSA) (2) Date/Time Issued (3) Date/Time Required FD-A 54 11/26/91 (5) Work Package Set No. 2 INIAI60LD (3) L358/406/4LD. (7) Customer I.D. Dose Rate mRad/Hr (9) Requester Name/Phone (5) Number 3AP891-8 of Samples 3AP891-1 P.G. Haigh 3AP891-2 3AP391-9 3-4655 10 3AP1191-1 3AP891-10 (11) Volume of Sample 9AP891-4 (10) Release 3A1891-5 100 mL 3AP891-6 3AP 891-7 RPT (12)**Expected Range** Minimum Detection Level Method Determination (16) Matrix (Other Metals or Anions Present) Liquid mixed weste. Radioactive contamination inatural, activation products and reactor fission products. Possible detectable halogenated and non-halogenated Organic Compounds. Hydroxide - pH = 12.5 or greater. Anions-sodium salts of nitrate, nitrite, phosphate, carbonate and sulfate. Metals—calcium and potassium salts, lead, chromium, cadmium. (18) Additional Information (Measurement Uncertainty or Other (17) Radioactivity Level (Actual | Estimated |) Pertinent Information) ± 25% Precision + Accuracy Total Alpha Total Beta Total Gamma (20) Samples Received (21) Distribution of Final Results/Sample Disposal Instructions Minimum Storage time - unfil April 1992. Customer will direct OSM re: Sample disposal

11500501

SAMPLE DATA SUMMARY

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WHC-SD-WM-DP-025 Addendum 14 Rev 0 SUMMARY DATA REPORT

Project:

242-A EVAPORATOR FEED CHARACTERIZATION

Tank:

103AP

Customer ID: 3AP891-10

Undigested Sample Results

		Sample R945		Sample Duplicate NA
SpG	(01-04-92)	1.006E+0		NA
DSC	(01 - 08 - 92)	NO EXOTH	ERM	NA
TOC	(01-28-92)	9.08E+1	ppm	NA
TIC	(01-28-92)	5.12E+2	ppm	NA
NH4	(01 - 31 - 92)	6.57E+1	ppm	NA
ОН	(01-07-92)	3.35E + 3	ppm	NA
CN	(02-03-92)	6.1 E-1	ppm	NA
Atomic Abso	rption			
As	(01-07-92)	6.10E-2	ppm	NA
Hg	(01-21-92)	< 1.7 E - 3	ppm	NA
Se	(01-29-92)	5.9 E-3	ppm	NA
Ion Chromato	ographic			
CI	(01 - 08 - 92)	1.03E+2	ppm	NA
F	(01 - 10 - 92)	2.60E+2	ppm	NA
NO3	(01-10-92)	9.79E + 3	ppm	NA
NO2	(01-10-92)	1.81E+3	ppm	NA
PO4	(01 - 08 - 92)	1.68E+2	ppm	NA
SO4	(01 - 08 - 92)	1.63E+2	ppm	NA
GEA	(01-04-92)			
Cs 137		4.23E+3	uCi/L	NA
Cs 134		<1.13E+1	uCi/L	NA
Eu 154		< 3.2 E + 1	uCi/L	NA
Co 60		<1.1 E+1	uCi/L	NA

WHC-SD-WM-DP-025 Addendum 14 Rev 0

SUMMARY DATA REPORT

Project:

242-A EVAPORATOR FEED CHARACTERIZATION

Tank:

103AP

Customer ID: 3AP891-10

Acid Digestion Sample Results

		Sample R945		Sample Duplicate NA
3	Acid Digestion	Complete		NA
दीर जनगः जन	Al	5.50E+5	ug/L	NA
F. Sa	Ва	<6.50E+1	ug/L	NA
Props	Cd	1.80E+2	ug/L	NA
ini	Cr	6.40E+3	ug/Ĺ	NA
	Fe	<4.35E+2	ug/L	NA
A9 100 PA	Pb	<4.0 E+2	ug/L	NA
~ ~	Mg	<2.55E+2	ug/L	· NA
₩.	Mn	2.30E+1	ug/L	NA
-	Ag	<4.0 E+1	ug/L	NA
- 11°	Na	1.20E+7	ug/L	NA
~	Zn	3.09E+2	ua/L	NA

WHC-SD-WM-DP-025 Addendum 14 Rev 0

UNDIGESTED SAMPLE ANALYSIS RESULTS

UNDIGESTED SAMPLE RESULTS

Tank:

103AP

R945

Page 1 of 2

I ank:	103AP											
Sample No.: Customer ID:	R945 3AP891 - 10				,							\$
Customer 15.	371 031 10											Ì
	Check						Duplicate	Spike of		Chack		
	Standard		Blank		Sample		Sampie	Sample		Standard		-
Lab ID:	R939		R940		R945		NA	NA I	1	A048	T	randomento
												_
Specific Gravity (01 - 04 - 92)	98.4	%	9,829E - 1		1.006E+0		NA NA	NA.		98.2	1 %	
Lab ID:	R938		N A		R945		NA	NA		BB3B		
Differential Thermal (01 – 08 – 92)	EXOTHERM		NA.		NO EXOTHERM		NA .	NA		EXOTHERM		
Lab ID:	S599		R940		R945		N A	N.A.		R046		
Total												1
Organic Carbon (01 - 28 - 92) Lab ID:	99.7 R 939	<u>%</u>	3.60E+0 R940	ug	9.08E + 1 R945	ppm	N A N A	NA NA		97.7 R946	1 %	=-
Tatal												-16
Total Inorganic Carbon (1 - 28 - 92)	99.4	¢K6	2.2 E+0	un	5.12E+2	ppm	NA NA	NA		102.8	1%	Addeniahii
Ammonia (01-31-92)	97.1	%	Complete		6.57E+1	ppm	NA NA	NA.		97.8	%	
OH (01-07-92)	99.8	%	Complete		3.35E+3	ppm	NA NA	NA.		102.1	%	, i
Cyanide (02-03-92)	99.1	%	<2.0 E-2	ppm	6.1 E-1	ppm	NA NA	NA		98.7	1%	7 0
Atomic Absorption											-	
Arsenic (01-07-92)	105.6	%	8.0 E-4	ppm	6.10E - 2	ppm	N.A.	NA.		111.6	96	_
Mercury (01-21-92)	107.4	%	<5.0 E-4	ppm	<1.7 E-3	ppm	N.A.	NA NA		90.7	%	_
Selenium (01-29-92)	114.4	%	<5.0 E-4	ppm	5.9 E-3	ppm	N A	NA NA		112.1	1%	==
Ion Chromatographic			1									_
Chloride (01-08-92)	92.9	96	< 1.0E - 1	ppm	1.03E+2	ppm	NA NA	NA NA		100.7	%	
Fluoride (1 - 10 - 92)	98.8	£16	< 1.0E - 1	ppm	2.60E+2	ppm	NA.	NA		102.9	%	_
Nitrate (1-10-92)	106.1	916	<1.0E+0	ppm	9.79E+3	ppm	NA NA	NA		102.8	%	-
Nitrite (1~10-92)	107.3	916	< 1.0E + 0	ppm	1.81E+3	ppm	NA NA	NA NA		108.4	8.	-
Phosphate (1-08-92)	97.3	°%	< 1.0E + 0	ppm	1.68E+2	ppm	N.A.	NA NA		100.5	%	
Sulfate (1-08-92)	92.8	9,6	<1.0E+0	ppm	1.63E+2	ppm	NA NA	NA.		100.1	×	1

1 ...

UNDIGESTED SAMPLE RESULTS

Page 2 of 2

	Check Standard		Blank	ι	Sampl	В	Duplicate Sample	Spike of Sample	Chuck Standard
Lab ID:	R939		R940		R945		NA	NA	R946
Gamma Energy (1-04-92)									
Cesium 137	107.9	%	5.83E - 3	u CI/L	4.23E+3	uCi/L	NA NA	NA	106.4 %
Cesium 134	NA NA		NA		<1.13E+1	uCI/L	N A	NA NA	NA
Europium 154	NA		NA		<3.2 E+1	uCi/L	NA NA	NA NA	NA .
Cobalt 60	101.1	%	<2.1 E-3	u CI/L	<1.1 E+1	u CI/L	N A	NA.	100 %

i ... i

WHC-SD-WM-DP-025 Addendum 14-Rey 0

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
SPECIFIC GRAVITY	UNDIGESTED

Instrument:	Procedure/Rev:	
WA96787	LA-510-112/C-2	
Technologist:	Date:	
R. D. MEYERS	1-04-92	
Starting Time:	Temperature:	
NA	NA .	
Ending Time:	Chemist:	
NA	R. K. FULLER	

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5506	11	*	
2	REAGENT BLANK	R940-5606	12		
3	SAMPLE 3AP891-10	R945-5706	13		
4	FINAL LMCS CHECK STD	R946-5506	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

20

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD				N/A

A-6000-881 (03/92)

SPECIFIC GRAYITY AMALYSIS - UNDIGESTED SAMPLE

WHC-SD-WM-DP-025 Addendum 14 Rev 0

Serial No	CONTROL ASSESSMENT	R939-5506
Determination Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Sect	5702 2.1843 1.9068 255 80m 11/10 2.815	
Anarysi - 1 50.371 Anarysi - 2 Anarysi - 3 Anarysi - 4 Anarysi - 3 Anarysi - 3 Anarysi - 3 Anarysi - 4 Anarysi - 3 Anarysi - 3 Anarysi - 4 Anarysi - 3 Anarysi - 3 Anarysi - 4 Anarysi - 3 Anarysi - 4 Anarysi - 3 Anarysi - 4 Anarysi -	5TD, 1771,7 1,8937. 1,8937. 1,8937. 1,8037. 1,4167.	
Severing 105002 Suppose Fourity Case 2-10-71 Types issued Pripries 10-10-10-10-10-10-10-10-10-10-10-10-10-1	2.0844 1.8874 1.0101.	R 940-5606
Analysis - 3 Analysis - 4 Analysis - 3 Analysis - 4 Analysis - 3 Analysis - 4 Analy	7.0866 1.8401 1.9401 1.0001.	
Servat No. 12-16-71 Tyrus issued Project 12-16-71 Tyrus issued Pro	1.4455 1.7435 1.7435 1.020 2020 2000;	945-713 ° R 945-5706
Analysi - 1 ST 37) Analysi - 2 Analysi - 3 Analysi - 3 Analysi - 3 P K 372 llu P K 12 42 P	2.0511 1.0503 1.0503 .20012 - 1.0034	

SPECIFIC GRAVITY AMALYSIS 2-UNDIGESTED SAMPLE

WHC-SD-WM-DP-025 Addendum 14 Rev 0

100 No. (1740 = 1550) Sample Poul (1750 1) 100 No. (1750 1) 100 No. (1750 1) 100 No. (1750 1)	2 946 - 5506
Herimination Method Standard Line 510-112 Reput Lines United United Children Specific Renyon	2.1533 1.8682 1.8682 1.20012 1.42485 1.4122
120U.]2.	200
maris, Cascussons, Arsuss 2002 ANUL A	1533
STDH 5 CI B) RESULT / 4/245	
FID VAL 7.4386 TIKEC 98.76%	1.4122 1.4125 1.4125 1.4125 1.4125 1.4125
32371 Arabyon - 2	1724 1923 2801 2001 = 1.394
CANA MILE TO THE PARTY OF THE P	* 15 12 12 14
Time Completed Like Line May	1.35
14/42 B4-8805-061 VA-10-84)	726
•	
	•
•	
	-

WHC-SD-WM-DP-025 Addendum 14 Rev 0

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
DIFFERENTIAL THERMAL	UNDIGESTED

Instrument:	Procedure/Rev:	
WC16134, WC16129	LA-514-113/A-0	
Technologist:	Date:	
M. MYER	1-08-92	
Starting Time:	Temperature:	
NA	NA	
Ending Time:	Chemist:	
NA	D. HERT	

Description	Lab ID		Description	Lab ID
1 INITIAL LMCS CHECK ST	TD R938-5511	11		
2 SAMPLE 3AP891-10	R945-5711	12	:	
3 FINAL LMCS CHECK ST	D R939-5511	13		
4		14		
5		15		
6		16		
7		17		
8		18		
9		19		
10		20		

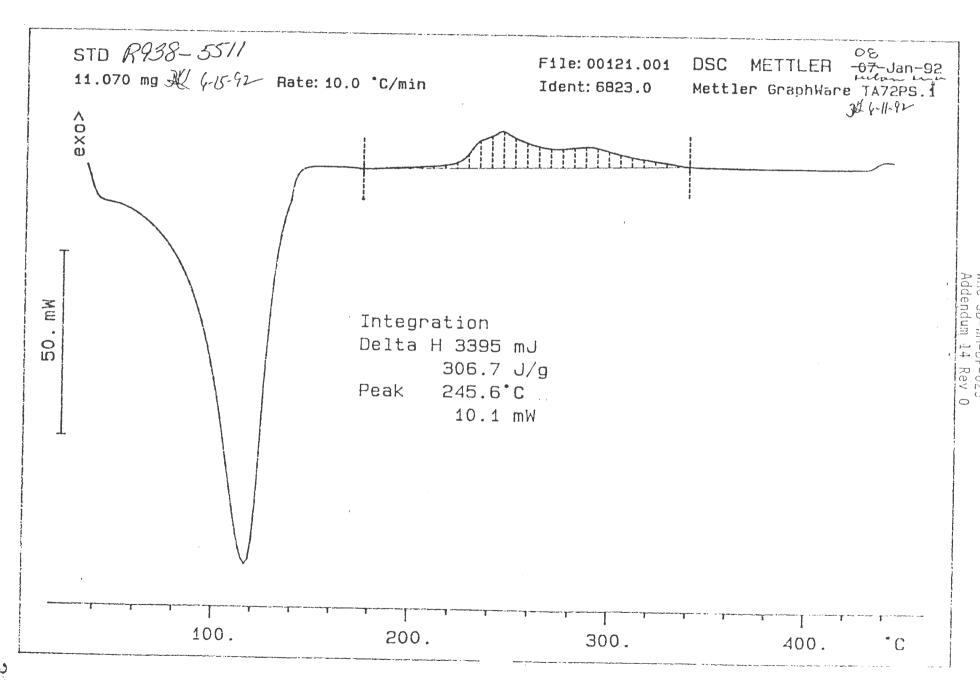
Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Type	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	27C11-BH/.010 mL			N/A
	·			

A-6000-881 (03/92)

DIFFERENTIAL THERMAL ANALYSIS - UNDIGESTED SAMPLE

WHC-SD-WM-DP-025 Addendum 14 Rev 0

beries Pet. Dampies Penns David Time Issued Princity	R 9455711 1036 12-16-91 16377 755
R 9385511 103AP 12-16-91 15±56 25 Construction Internation Intern	
DSC LA-514-113 % RECOVERY H124W 0	OUSCOME TEATHERIS THE STEEL AND
2 , 010 and 970	Barryon Sule Community 110
Republika, Cultivismene, Producti	Partier A. Cost usergas, Acousts
Exothern OK 27C118H	120 custom
	NO CADTISATION
Anarysi - 1 Anarysi - 2 Anarysi - 4 Anarysi - 5	Analysi - 1 Analysi - 2 Analysi - 3 Analysi - 4 Analysi - 6
The man pro Con Albania Albania	helm true me hus me that
Date Time Compressed Life Lines May:	(ecaza)
1-8-92 Descentian	1 -8 -97
b - 00-000-001 (A-10-00)	01-4005-061 (A1-10)-CSJ
	•
Served No. Sumpto Point Dose Time issued Priority	
8 939 -5511 103AP 12-16-91 16s 1 25 Determination Methods Standard Annual Lines Charge Code Annual	
DSC LA-514-113 X RECOVERY N124W O	
Customer 10 7 (Olomba 9TD	•
APPRIATE CONTURBED 27CIIBH	
Exotherm CK	
Anarysi - 5 Anarysi - 5 Anarysi - 6 Anarysi - 6 /	
Anarysi - 1 Anarysi - 3 Anarysi - 3 Anarysi - 6 Anarysi - 6	· ·
1916 : 1916 · 1916 · 1916	
DON Time Completed Late Unit May	
1-8-92 Tester Hom	
The second of th	•
	•
	•



the same of

1938-5511 4-11-92

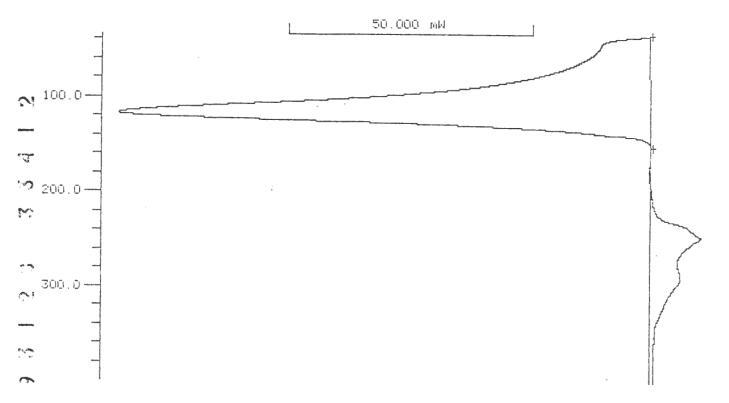
AUTOLIMITS WARNING END TEMP.

٥С

8 151.7

TEMPERATURE °C

HEAT FLOW EXOTHERMAL-->



WARNING 1 23907 \triangle H ENDO mJ 23907 \triangle H J/G 2159.7 PEAK TEMP. \circ C 106.6

***** METTLER TA4000 SYSTEM ******

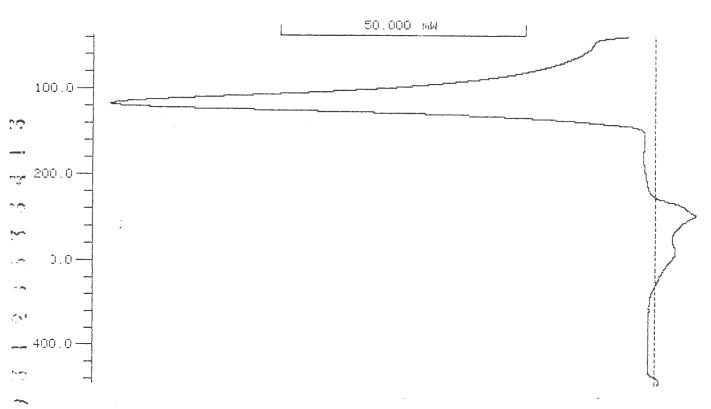
R938-5511

END SCREEN °C

445.0

TEMPERATURE °C

HEAT FLOW EXOTHERMAL-->



***** METTLER TA4000 SYSTEM ******

Data Packaging received a partial printout for Differential Thermal Analysis Sample No. R945-5711. We contacted Denise Hert, the chemist, and were informed that the missing information is not retrievable.

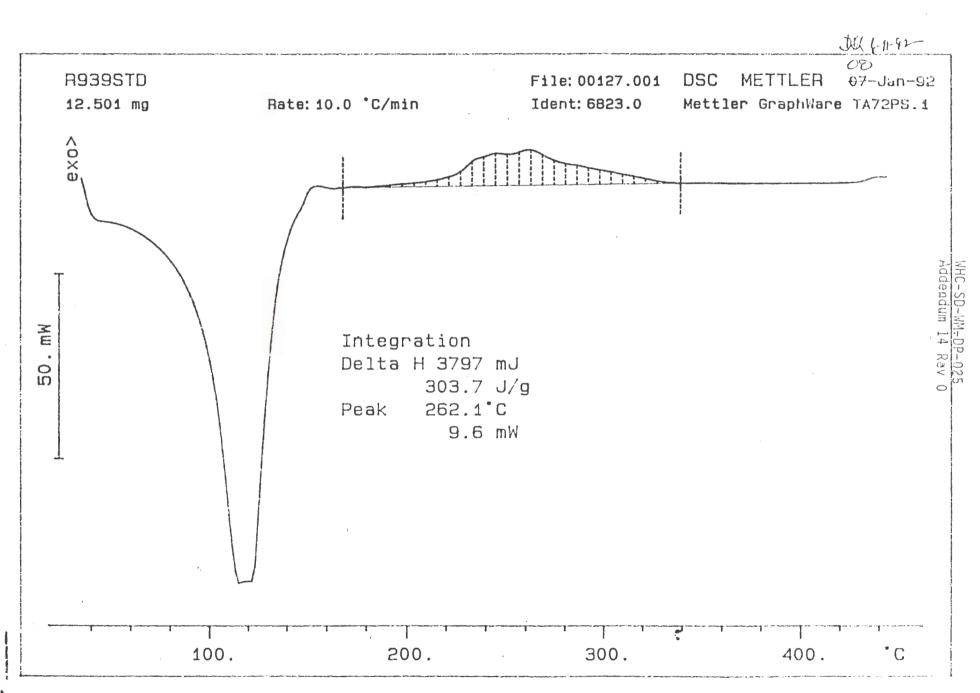
Submitted by: Lola R. Webb, Al Webb Records Management Specialist Laboratory Data Management

Date:

06/23/92

```
WHC-SD-WM-DP-025
  PEAK INTEGRATION
                                       Addendum 14 Rev 0
                                             R945-5711
S# 4-15-92
       7-JAN-92
                   20:46
       7-JAN-92 19:50 **
      PEAK INTEGRATION
      DYN/ISO
               1/2
                              1
      AUTOLIMIT 0/1
                              1
                              35
      START
                              400
      END
      BASELINE TYPE
                              8
      PLOT
                  CM
                              10
      PLOT MODE
                              101
      FILE NO.
                              00126.001
      IDENT. NO.
                              6823
      RATE K/MIN.
                              10
                              12.160
      WEIGHT
                 mG
      AUTOLIMITS
      WARNING
                                 8
      END TEMP.
                   o C
                              140.7
TEMPERATURE °C
                              HEAT FLOW
                              EXOTHERMAL-->
2
                                        50,000 mM
10
  100.0-
+ D. 7
   200.0-
   300.0-
```

WARNING 1
△H ENDO mJ 23003
△H J/G 1891.7
PEAK TEMP. °C 102.8



WHC-SB-WM-DP-025 PEAK INTEGRATION Addendum 14 Rev O 7-JAN-92 22:01 R939-5511 7-JAN-92 21:14 ** PEAK INTEGRATION DYN/ISO 1/2 1 0 AUTOLIMIT 0/1 START 35 450 END 35 START B. LINE 450 END B. LINE 8 BASELINE TYPE 10 CM PLOT PLOT MODE 101 00127.001 FILE NO. IDENT. NO. 6823 10 RATE K/MIN. 12.501 WEIGHT mGEND SCREEN °C 445.2 TEMPERATURE °C HEAT FLOW EXOTHERMAL--> -50.000 mW -100.0-200.0-300.0-400.0 WARNING 1

25640

2051.0

105.8

△H ENDO

PEAK TEMP. °C

 ΔH

mJ

J/G

2. 201.91 Danis J Flest

WHC-SD-WM-DP-025 Addendum 14 Rev 0

DSC

Calibrated Nov 26,91

:ONFIGURATION

26-NOV-91 11:24

E INDIUM	255
DSC SIGN ICTA	1
TAU LAG	12
TAU SIGNAL	0
E DIMIN. FACT.	.93
S	2400
TAU LAG 2	16
TAU SIGNAL 2	0
ME DIMIN. F. 2	.93
S 2	1850
' ^X. TEMP.	600.
N. TEMP.	-50.
A PT100	.21437
P PT100	.74509
C PT100	10370
HEAT P	3000
HEAT I	250
HEAT D	30
TO COOL 1	0
COOL 2	0
C00F 3	0
A1	10773
B 1	58.121
C 1	.14689
T 1	-100
A2	8940
B 2	17.884
C 2	072
Т2	363
A3	9360.3
В3	-15.043
C3	.01538

****** METTLER TA4000 SYSTEM ******

WHC-SD-WM-DP-025 Addendum 14 Rev 0

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
TOTAL ORGANIC CARBON	UNDIGESTED

Instrument:	Procedure/Rev:	
MODEL 5011 WC16130	LA-344-105/B-1	
Technologist:	Date:	
L. CONLIN	1-28-92	
Starting Time:	Temperature:	
16:30	NA .	
Ending Time:	Chemist:	
23:00	D. BISENIUS	

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	S599-1621	11		
2	REAGENT BLANK	*R940-5626	12		•
3	SAMPLE 3AP891-10	*R945-5726	13		
4	FINAL LMCS CHECK STD	*R946-5526	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Туре	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	70C11-J/.200 mL			N/A
*SAMPLE RERUN.				
Material Articles				

A-6000-881 (03/92)

TOTAL ORGANIC CARBON AMALYSIS -- UNDIGESTED SAMPLE

WHC-SD-WM-DP-025 Addendum 14 Rev 0

Sample Size	LA-344-105 GM. DO IN .5M H2S04	/L.C · 51	D O	TOC Sample Size	LA-344-105	ug Car	DON' NIME IO	1
5354 CO3	100 10 RESULT 2.99 4	ALC		REAGENT .5 M Hz	EILANK 504	60 mg C	RERUN	1
Timbolon				LileCo)———
Loca49	Analysi - 2 Analysi - 3 Pts Pts	A AND THE STATE OF	LA Van	Tocaya	Analysi - 2	Analysi - 3	Analysis Ana	rei,
1-28-92	Time Completed Lab Unit to	isenius	54-6800-001 (A-10-63)	1-28-0	Z Tutte Comparted	04 Bises	iur 31-440	0-061 ps - 10-1
Serial No. R. 945 a - \$1 Description 1 OC Sample Sue. ? L. L. L. H. America. Calculations	1	N Unids Cha	Time leaved Prority 16:12 25 ge Cose Resuns 24W 1 pmer 10 pm 10 pm 10	Permaras, Calculat	1 A-394-105 + ZML HaSOy ons, Results	Result Limits	2-15-91 15:13 Charge Code	Sales Record
D-0.0	9.08 E-			STD VAL	AND RESULT 3.000g/LC TOREC 7. Rec = 4	2.93 gllc 97.7% 2.93 gll x 16 3.000 gll x 16		
Analysi - 1 100949 [1008 1-28-92	Tens Companies Land Area Marie		La Ding	Analysi 1 CQ49 Hus Date 1 - 26 - 9	Time Completed	Analysi 3 His L Late Unit Mgr DM Briseni	Paster De	no Dan
	T		\$4-6800-081 (A-10-63)	1 20 1		y bester 1		-061 (A-10-6

Beginning Std. WHC-SD-WM-DP-025 Addendum 14 Rev 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPURT

S 599 \$ 8.28.92

Sample: 70011J Date: 01/28/92

Time: 19:03:14

Sample Size =	200 aL	Analyst:	L COMLIN
Dil Factor =	1.1	Min Readings =	1.4
Blank ID # =	BLANK	Max Readings =	1.4
Blank Value =	.5140706 ug/minute C	% Difference =	10

200 200	Reading	==== Analysis 7	Time ==== Coulometer	==== % Difference ==
	1	0.51	0.10	0.00
	2	1.01	2.40	95.83
	2	1.51	31.70	92.43
	4	2.01	44.60	28,92
	E.,	2.51	50.60	11.66
	á	3.00	54.00	6. 30
	7	3.51		2,35
	8	4.00	56.00	1.25
	9	4.50	55.50	0.88
	10	5.00	57.00	0.88
	1. 1.	5.50	57.30	0.50
	12	é, "OO	57.50	0.35
	13	. 4.50	57.80	0.52
	14	7.00	58.00	0.34

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED THE ANALYSIS RUN ON PAGES 41 TO 44.

ELANK VALUE = 3.6 micrograms carbon ELANK FACTOR = 3.6 / 7.00293 = +5.1E-01 ug/min Carbon SAMPLE RESULTS: (58 - 3.6)(11)/(200) = +2.99E+00 g/L Carbon +2.49E-01 Molar Carbon +2.49E-

Sample Run By: L CONLIN 60949

BEST AVAILABLE COPY

0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT TICTOC REV 2.0

KKK BLANK ANALYSIS 200

R940 \$ 828.92

Sample: BLANK

Date: 01/28/92 Time: 18:53:09

Sample Size	:==	200 at.	Anad	Lyst			i. com.n.
Dil Factor	=::	1	Hin	Read	dings		1.4
Blank 1D #	:::#	BLANK	Macc	Read	dinge	:::0	14
Blank Value	===	N/A	% D:	iffe	rence	===	10

=== Readin	g ==== Analysis	Time ==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.40	100.00
75	1.51	0.90	
4	2,00	1.30	30.77
7.1 7.1	2.50	1.40	18.75
6	3.00	1.80	11.11
7	3.50	2.10	14.29
8	4.00	2,30	8.70
9	4,50	<u> </u>	8.00
10	5.00	2.80	10.71
1.1	5.50	2,90	3 4 A
12	6.00	3.10	6.45
13	4.50	3.40	8.82
1.4	7.00	3.60	5.56

BLANK VALUE = 3.6 micrograms carbon BLANK FACTOR = 3.6×7.00293 =

+5.1E-01 un/min Carbon

OK Calculated by D. Y. Bisenius 81787 1/30/92

-SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED THE ANALYSIS RUN ON PAGES TO entered in error KS e123/92

Sample Run By:

LCONLIN

TOCH TOTAL ORBANIC CARBON ANALYSIS REPORT

S Ion	ple: PC45		Date:	01/1	10/92	Time:		
7	Ample Size = 11 Factor = 11 Factor = 12 Hz = 1	1.5 BLANK	ug/mi	nute		Min Read Max Read	: L COM iings = 14 lingz = 14 rence = 10	14
TOB 9812	Reading ==== 1 2 3 4 5 6	Analysis 0.51 1.01 1.51 2.01 2.51 3.00			Coulomet 0.00 2.10 8.60 10.80 12.00 12.80	Cer ====	% Difference 0.00 100.00 75.58 20.37 10.00 6.25	
•	7 8	3.50 4.00			13.30 13.80		3.76 3.62	
.*	9	4.50 5.00			14.20 14.50		2.82 2.07	
 3	11 12 13	5.50 6.00 6.50			14.80 15.10 15.30		2.03 1.79 1.31	
.	14	7.00		•	15.70		2.55	

BLANK VALUE = 3.6 micrograms carbon BLANK FACTOR = 3.6 / 7.00293 = +5.1E-01 ug/min Carbon SAMPLE RESULTS: (15.7 - 3.6)(1.5)/(200) = +9.08E-02 g/L Carbon (15.7 - 3.6)(1.5)/(200)(12) = +7.56E-03 Molar Carbon

L CONLIN

BEST AVAILABLE COPY

Sample Run By:

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT TICTOS REV 2.0

Sample: R946		Date: 01/2	28792	Time: 22:5	3:04
Sample Size = Dil Factor = Blank ID # = Blank Value =	11 BLANK	ug/minute		Analyst : Min Readings Max Readings % Difference	= 14
== Reading ====	Analysis	Time ====	Coulomet	er ==== % Di	iference ==
Ĭ.	ó.51		0.00		0.00
2	1.01		5.50		100,00
3	1.51		33.20		93.43
41	2.01		45.10		26.39
5	2.51		51.00		11.57
Ó	3.01		53,50		4.67
7	3.50		54.90		2.55
8	4.00		55.40		0.90
9	4.50		55.90		0.29
1.0	5.00		56.10		0.36
1.1	5.50		54.30		0.36
1.2	6.00		58.40		0.18
13	6.50		56.60		0.35
1.4	7.00		56.80		0.35

BLANK VALUE = 3.6 micrograms carbon BLANK FACTOR = 3.6 / 7.00293 =

⊣5.1E-01 ug/min Carbon

SAMPLE RESULTS:

0

(56.8 - 3.599561)(11)/(200) = (56.8 - 3.599561)(11)/(200)(12) =

+2.93E+00 g/L Carbon +2.44E-01

Molar Carbon

Sample Run By:

L CONLIN

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Sagment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
TOTAL INORGANIC CARBON	UNDIGESTED

Instrument:	Procedure/Rev:	
WB39927	LA-622-102/B-1	
Technologist:	Date:	
J. SOLBRACK	1-28-92	
Starting Time:	Temperature:	
16:30	NA	
Ending Time:	Chemist:	
11:45	D. BISENIUS	

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5527	11		
2	REAGENT BLANK	R940-5627	12		
_3	SAMPLE 3AP891-10	R945-5727	13		
4	FINAL LMCS CHECK STD	R946-5527	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

0

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD				N/A
· · · · · · · · · · · · · · · · · · ·				

A-6000-881 (03/92)

TOTAL INORGAMIC CARBON ANALYSIS - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

, (, , , , , , , , , , , , , , , , , ,	Sample Prove	12-	10-71	10: 1	гунуну 23	Sector 10 - 2	Sample Point		2 16-	71 1	المسحيد الم	Privid
l U	LH=522=102	Resid Units	KY P	11280	Rerype	Determination (110)	Life-balantin	DZ Result i	Carbon	977	दिश्य	Part yet)
mpre Suse		1	9	of D		Sample Side				Cure	10	-
SO & THE CHEMISTS 223 LUG	results					Armeras Carculations KEMBENT Di	, Stranding					
		100 - 14				KEMBENI BI	+1i4K					
	L RESULT 1.9											
	DOUGHAS HEC 99.				1		2.	2 mg C				
& Rec .	1.988 E-1 M	×100 = 99.	470		-							
	2.000 4 7 3				-							
W. Sollwell	Anerysi - 2 Aner	1754 - 3	ALLEMAN	Anayyu.	1	20001-1	Analysi - 3	Analyst - 3	Anupar		Din	
//-Coffined_	Hvs.	Has C	Lesc	ca lka	2	Fillollreck	Pita	245	1	Lui	180	
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000100	I V	1 sisenus		M-4400-0	61 (A-10-83)	1-28-92	!	109130	anun	<u> </u>	\$4-6400-051	(A-10-8
100 No 74557	Semple Point	Date	16-91	Time Jaques	Румуну	Splitt No. 15	52 Sample Point		12-16-	١٠ ١٠-	Tyme tstues	Panya
						Company of the Compan		I Bas et				1
iermenon II.	Method Standard	Google Units	. 18	this term	Retyre	Desermination	teino . Manages	270	作さいVER7	القام	sk- etada	1401 64
mote Sure			C	WF879 10		Sample Size				Guere	mer ID	
MAIAS, CAICURAIONS.	Mornies					Remarks, Calculations	. Rosulis					
					1							
					[-1						,
	5.12	5 E-19/L				STON 69CH	L RESULT					,
	5.12	5 E-19/L	-			STD11 69CH	L RESULT	102.87.	,			•
	5.12	5 E-1g/L	•			STD11 69CH	L RESULT	102.87.	,	8%		,
	5.12	5 E-191L				STD11 69CH	L RESULT	102.87.	,	8%		,
11 O 11			ary st - 4	Analysi -		STDII 69CH-	L RESULT	102.87.	0 = 102.		Analysi - S)
off Short						STD11 69CH	2.000E	102.87.	0 = 102.		Analysi S) ring
14 Shan 62020	Analysi - 2 Anal	hysi - 3 An	aniyal - 4		à	STDII 69CH-	L RESULTED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RESULTED R	102.87, 1 M × 10	no = 102.		7) king
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// ни	Analysis - 2 No Paris Analysis - 2 Time Completed Lab	hysi - 3 An	alyst - 4 Hrs	•		STDII 69CH-	L RESULTED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RESULTED R	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	no = 102.	sel.	7	
8020	Analysis - 2 No Paris Analysis - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Hrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED TO SECTION OF THE PROPERTY OF THE P	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	alyst - 4 Nrs	•	M 6	Jo Rec 1	L RESULTED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RESULTED R	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Hrs Mgs Und Mgs Y Bisbiium	Pri G	•	M 6	Jo Rec 1	L RESULTED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RESULTED R	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	
8020	Analysis - 2 No Paris - 2 Time Completed Lab	Pysi - 3 An	Pri G	•	M 6	Jo Rec 1	L RESULTED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RECEIVED RESULTED R	102.87, 1 M × 10 Analysi - 3 Heat Lab Lind Mcc.	Analyst Analys	sel.	Dieri	

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

	Sample: R-739 69	9011-L	Date: 01/2	88/92	Time: 17:01:	19
	Sample Size = Dil Factor = Blank ID # = Blank Value =	I BLK	ug/minute		Analyst : Min Readings = Max Readings = % Difference =	: 14
	== Reading ====	Analysis	Time ====	Coulomet	er ==== % Diff	er ence ==
	J	0.51		0.30		9.00
	2	1.01		15.50	G	78.06
	3	1.51		51.60	Ė	9,96
	4)	2.01		8.2.90	3	7.76
	5	2.51		101.90	1	.8.65
-	6	3.01		111.00		8.20
. 5	7	3.51		116.10		사.39
	8	4.00		118.10		1.67
s, 10	5	4.50		117.70		1.34
~	1.0	5.00		120.10		0.33
	1.1	5.50		120.80		0.58
	12	6.00		120.90	:	0.08
7 1	13	6.50		121.30		0.33
p., .	1.4	7.00		121.50		0.16

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED THE ANALYSIS RUN ON PAGES $47\ T0\ 50$.

BLANK VALUE = 2.2 micrograms carbon
BLANK FACTOR = 2.2 / 7.00293 = +3.1E-01 ud/min Carbon

SAMPLE RESULTS:
(121.5 - 2.200038) (1) / (50) = +2.386E+00 d/L Carbon
(121.5 - 2.200038) (1) / (50) (12) = +1.988E-01 Holar Carbon

Ok Calculated by D. Y. Bisenius 81787 1/30/92

Sample Run By:

JI SOLBRACK 82020

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT TICTOC REV 2.0 <<< BLANK ANALYSIS >>>

Sample: BLK R-940 M 9-18-92 Date: 01/28/92 . Time: 18:48:20

Sample Size = 50 uL Dil Factor = 1 Blank ID # = BLK Blank Value = N/A

0

Analyst: JI SOLBRACK Min Readings = 14

Max Readinos = 14 % Difference = 10

== ==	Readino	 Analysis	Time ==	 Coulometer	%	Difference	distribution	
	1	0.51		0.00		0.00		
	2	1.01		0.10		100.00		
	3	1.51		0.20		50.00		
	4	2.01		0.40		50.00		
	5	2.51		0.60		33.33		
	6	3.01		0.80		25.00		
	7	3.51		0.90		11.11		
	8	4.01		1.00		10.00		
	9	4.50		1.20		16.67		
	10	5.00		1.40		14.29		
	1.1	5.50		1.60		12.50		
	12	6.00	·	1.80		11.11		:
	13	6.50		2.00		10.00		
	14	7.00		2.20		9.09		

BLANK VALUE = 2.2 micrograms carbon BLANK FACTOR = 2.2 / 7.00293 =

+3.1E-01 uo/min Carbon

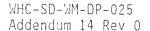
OK Calculated by D. 4. Bisenius 81787 1/30/92

Sample Run By:

JI SOLBRACK

82020

BEST AVAILABLE COPY



TIC- 10TAL INORGANIC CARBON ANALYSIS REPORT

Sample: R-945 Date: 01/28/92 Time: 22:14:43 Sample Size = 200 uL Analyst: 01 SOLBRACK Dil Factor = 1 Min Readinos = 14 Blank ID # = BLK Max Readinos = 14 Blank Value = .3141542 uo/minute C % Difference = 10 == Reading ==== Analysis Time ==== Coulometer ==== % Difference == 0.51 0.50 0.00 1.01 8.40 94.05 1.51 28.50 70.53 2.01 50.10 43.11 2.51 67.10 25.34 3.01 79.50 15.60 3.51 88.20 9.86 3 4.01 93.70 5.87 9 4.51 97.40 3.80 5.01 10 100.10 2.70 11 5.51 102.00 1.85 1.2 5.00 103.50 1.45 1.3 6.50 104.20 0.67 14 7.00 104.70 0.48

BEST AVAILABLE COPY

BLANK VALUE = 2.2 micrograms carbonBLANK FACTOR = 2.2 / 7.00293 = +3.16-01 ud/min CarbonSAMPLE RESULTS: (104.7 - 2.200345)(1)/(200) = +5.1256-01 o/L Carbon(104.7 - 2.200345)(1)/(200)(12) = +4.2/16-02 Holar Carbon

Sample Run Bv:

JI SOLBRACK 82020

TIC- TOTAL INORGANIC CARBON AMALYSIS REPORT TICTOC REV 2.0

	Sample: R-946		Date:	0173	28792	lime:	22:39:44	
	Sample Size = Dil Factor = Blank ID # = Blank Value =	1 BUK	ug/mi	nute	С	Min Read Max Read	: JI 9 inas = 14 inas = 14 ence = 10	OLBRACE
	== Reading ====	Analysis	Time	=======================================	Coulomet	ter ====	% Differenc	e ==
	1	0.51			0.90		0.00	
	2	1.01			28.00		96.19	
	3	1.50			60.70		53.87	
	41	2.00			83.30		27.13	
	5	2.50			97.40		14.48	
hees *	6	3.00			106.40		8.46	
-	7	3.50			112.50		5.42	
	8	4.00			116.50		3.43	
₹"	9	4.50			119.40		2.43	
	10	5.00			121.40		1.65	
خ	1.1	5.50			122.90		1.22	
	12	6.00			123.70		0.65	
~	13	6.50			124.70		0.80	
	1.4	7.00			125.50		0.64	

BEST AVAILABLE COPY

```
BLANK VALUE = 2.2 micrograms carbon
BLANK FACTOR = 2.2 / 7.00293 = +3.1E-01 ug/min Carbon

SAMPLE RESULTS:
( 125.5 - 2.199693 )(1)/(50) = +2.466E+00 g/L Carbon
( 125.5 - 2.199693 )(1)/(50)(12) = +2.055E-0J Holar Carbon

Sample Run By:

JI SULBRACK 82020
```

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
AMMONIA	UNDIGESTED

Instrument:	Procedure/Rev:	
NA	LA-634-102/D-0	
Technologist:	Date:	
S. LAI	1-31-92	
Starting Time:	Temperature:	
NA	NA NA	
Ending Time:	Chemist:	
NA	D. BISENIUS	

Description	Lab ID		Description	Lab ID
1 INITIAL LMCS CHECK STD	R939-5528	11		
2 REAGENT BLANK	R940-5628	12	•	
3 SAMPLE 3AP891-10	R945-5728	13		
4 FINAL LMCS CHECK STD	R946-5528	14		
5		15		
6		16		
7		17		
8		18		
9		19		
10		20		

orkal

0

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	4C11-RA/0.250 mL	and Anquot voi.	Aliquot voi.	NA Startdard
THESE SAMPLES V	VERE RERUN			

A-6000-881 (03/92)

AMMONIA ANALYSIS - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

and the	Semple Point	Cate	Time labored	Priority	Servel No	Sample Point	100	14	Time hasens	ייספייה
3 9395528		12-16-9		25	R 94056			12-16-91	16: 2	25
	nod/Stenders	Assurt Units	Charge Code	Aeruns	Determination	Method/Standard	Proposit Limit		Charge Code	Aerun
1H4 L	9-634-102	# RECOVERY	N1 24W	2	NH4	LA-634-102	PPM		4124W	2
ample Size			Customer 10		Sample Size			١,	Customer 10	
250		0.02054	STD		?			7- 0 - 01 171	ELK	
lemsiks, Cálculations, Resu	R.F.	HUL T	RERUN		Remarks, Calculations			Her &	ERUN	
5235 NH4CL		N	EVAN	1	REAGENT BL	HUK		44		
STDH 40 11-24	RESULT 4.95	2-5 W	Bluk: 85	٠, ا				Blange	_:8 t >	
STD VAL 5.10	M REC 97.1	7.				01111				
	•		STD: 689	ا ۸	1 6	OMPLETE	face	1 Kluck	. : + > >	
(689-85)	×.0205 - 4.9						1~7	,	•	
250	2. Rec	4.95E-241	100 = 97.1	-						
inglyst - 1 An	alysi - 2 Analys	1 - 3 Analysi - 4	Analysi	. 5	Analysi - 1	Analysi - 2 Ar	alysi - 3	Analysi - 4	Analysi - 6	
Sudai		1	(/)	Sue Lai					
Hes	Hrs	141	1	17	Hea	Hes	Hirs	Hrs	1	//
10116			Cas/1	estry	16916	Time Completed Li	is Unit Mor		//	
Date TH	ne Completed Lab U		501	10	UNIN		04 Beie		On Mi	u
1-31-12	199	Bessies	Clula	en	1-31-92		v7 Bege	nus	51-1000-01	1 (M - 15 -
			~34-6400-	120.00						
	· ·.									
9455720	Sample Peint 103AP	12-16-9	1 16:12	Prienty 25	Surretuno.	Sample Point	1	Dele	Time leaved	Print
		Letter Units	Charge Code	Return	R 9465	528 103AP	_,,	12-16-91		23
		PFM	N124W	3	Determoration NH4	LA-634-102	Accord to	OVERY	Charge Goes N124W	Peru 2
Imple Size			Customer ID		1	ILM-034-102	14 KE	-UAFK1	MITTAM	12
anh		0.02054	3APB9110		Sompie Size			.0205M	STI)	
PROCES, CARCINOSIONE, Posto	a *		16110		? コケット Remerks, Colculation			NCE RE	- 6371	
		~~R	ERUN		8235 NH4C			NOC IL	37 6 13	
				الم		AA REBULT 4	995-2	: Blu	L: 85.	~
2 2)(.0205) r	101 / 12)	nt: 85.			IDE-2 RECO				•
2	1((8) (83)		1					_	
		سک	pl : 41	/入	(,6930	85)(.0205)	4- N 00	2-2 5 TP	1 6932	\
3.65E-3	•	45.7 pom	• 15" 11. 1		,2	50	2 6 halo	E		
	ryst - 2 Analyst	·3 Annysi ·4	. Anarysi -			<i>ბ</i>				
Su Zi				.	Sug of	Analyst - 2	waysi - 3	Analysi - 4	July.	٧,
Hrs	Hrs	Hrs Ho		7	200	- Pera	. Hrs		1	,,,/
62116	;- ·		76	- //	60716					ul
1	Completed Lap Un	11 1	-		Date	Time Companed	A Line May	9		1/1
1-31-92		TCIO MADA	Dollar	en	1-31-12],	Steice	Masson	and a	11/
	to a tree some	A Comment	54 4000 d	ME1 (FR-147-83)					Hade	61 A-16
					`		-	-		
					*					
						,				

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Segm	ent Serial No.:	Customer ID:	
R945		3AP891-10	
Analysis:	DETERMINATION OF	Sample Prep:	
	HYDROXIDE IONS IN SOLUTIONS	UNDIGESTED	

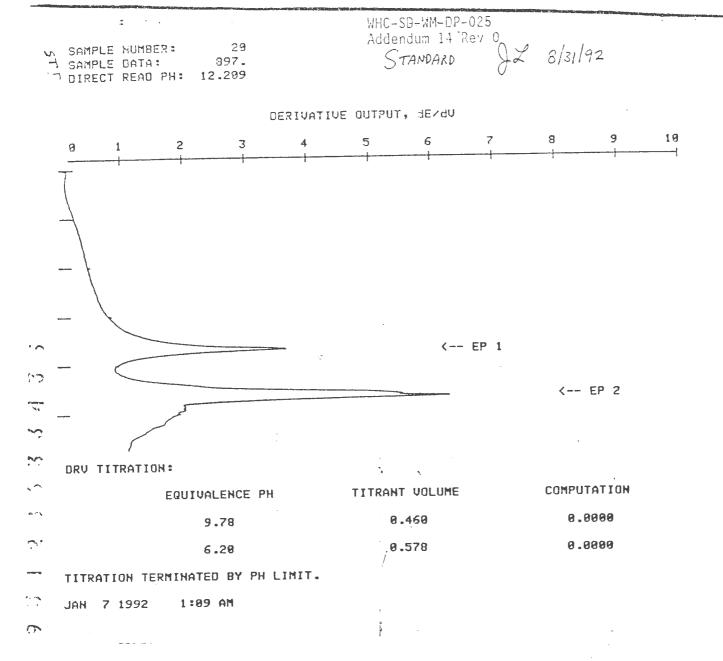
Instrument:	Procedure/Rev:	
AL10636, WB55123	LA-661-102/F-1	
Technologist:	Date:	
J. MIDDLETON	1-07-92	
Starting Time:	Temperature:	
00:15	NA .	
Ending Time:	Chemist:	
04:05	S. ISAACSON	

Description	Lab ID		Description	Lab ID
1 INITIAL LMCS CHECK STD	R939-5529	11		
2 REAGENT BLANK	R940-5629	12		
3 SAMPLE 3AP891-10	R945-5729	13		
4 FINAL LMCS CHECK STD	R946-5529	14		
5		15		•
6		16		
7		17		
8		18		
9		19		
10		20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	9C11AG/.100 mL			N/A

DETERMINATION OF HYDROXIDE ION IN SOLUTION - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

	L'V L'Octell	12-16-5	/1 Ine laund	Prior-sy			Sample Pour		11-10-7		PILHRI
I): I	Linimodificate Linimodif=102	RECOVERY	निमृह्युक्ष	Herwas	Determination	T	H-001-102	Passed V	T-MA	7117:4W	Herpine
mois 21.40	457-	1	Customer 10 S1D		Sample Size	,				Customer ID ESI IX	
marke Calculations /	tro Y	11399=	HNOS		Hamaia Caku Nichbilini	ainna Peas	ſŖ		,1899	コイハウ	
	s result &	555-1									
ID VAL 2.5	STET MED 9	9.87.					Con	plut	ı		
	(1110	-10)(.1899)	/ =	-				,			
	(460		ω ~								
JAHLE	Analysi - 2 Analysis	PM - 3	1100		7/37/	HA	naiysi - 2	AC -44 + 3	Anelyst - 4	Analysi - I	
82(77	PVS	Pers / Pers		7/7	620	77	Ptr6	Ptra	Pes	,	7/
-7-92	Time Completed Leb	Duri mán			Deso -	92	me Completed L	ab Unit Mgr			
-1-12	. 18	tacieilsand	march 1	12c,	1/- /-	12				11 +000 00	1 (8.00.83)
					!						
94557	29 TUSHP	Dese 12-16-9	71 16:12	Priority 25	\$ Not 1940	-5529	* 102 201°		Deu 12-16-9	1 15:15	Parquey
francion	Helpod Signard 102	Appen Lines	SHIP SW	Reruna	Catermination	ĭ	Lift "DOI" 102	Result	FUUVERY	Charge Code	Heruns
more Suce	1		Customer 10	>	Sample Size					SID D	
marks, Calculations, i	Results	1007511KE	YNO,		Pemeras Carco	Hations Res	uffa .	-	1899=1	HNO,	
							RESULT	8.75E-			
SPIKE 190					SID VAL	.8.57	E-1 MRED	102:10	70		
	(1495-1	160)(.1899)	1.97 E-1		:]		(471-10)(.	1899)	- 8.75E · I		
	·						100				
Libelle	Analysi - 2 Anal	yat - 3 Analyst - 4	Aneryst -	,	7/1/201	alor -	AMYM - 2	valysi - 3	Anarysi - 4	200	· •25
82577	Pers	Hrs. Hr		W/ /	825	77	Hrs	Pes	4. Aus		2//
7-7-92	1 1,1	Und Mgr			1-7-	92		40 Unit Mgr	.0		1//
1-1-12	1	Hacio Mococo	1 2 2 2 1000	81 (A-1925)	1/5/5	12		<u>Diace</u>	Wassel	The same of the sa	1 191 110 11
					·						



SAMPLE HUMBER: 6
SAMPLE DATA: 897.
DIRECT READ PH: 4.416

DERIVATIVE OUTPUT, dE/dV

9 1 2 3 4 5 6 7 8 9 18

DRU TITRATION:

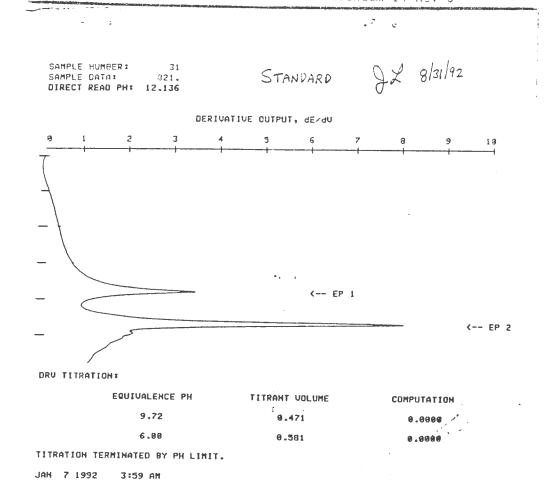
9

10

0

TITRATION TERMINATED BY PH LIMIT.

JAN 7 1992 12:47 AM



(7)

SAMPLE NUMBER: 27 SAMPLE DATA: 921. DIRECT READ PH: 12.195 DERIVATIVE CUTPUT, de/du Addendum 14 Rev 0 10 3 <-- EP 1 <-- EP 3 DRU TITRATION: EQUIVALENCE PH TITRANT VOLUME COMPUTATION 9.93 1.495 0.8088 8.45 1.783 0.0000 8.84 ,1.848 8.8000 6.95 2.948 0.0008

TITRATION TERMINATED BY LIMIT ON NUMBER OF EQUIVALENCES PERMISSIBLE.

JAN 7 1992 3:24 AM

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.: R945	Customer ID: 3AP891-10
Analysis:	Sample Prep:
CYANIDE	UNDIGESTED

Instrument:	Procedure/Rev:	
MILTON ROY SPEC 301 AL10724	LA-695-102/B-0	
Technologist:	Date:	
E. COLVIN	2-03-92	
Starting Time:	Temperature:	
N/A	N/A	
Ending Time:	Chemist:	
N/A	D. BISENIUS	

Description	Lab ID		Description	Lab ID
1 INITIAL LMCS CHECK STD	R939-5578	11		
2 REAGENT BLANK	R940-5678	12		
3 SAMPLE 3AP891-10	R945-5778	13		
4 FINAL LMCS CHECK STD	R946-5578	14		
5		15		
6		16		
7		17		
8		18		
9		19		
10		20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
	75C11-X/0.100 mL			N/A

0

A-6000-881 (03/92)

CYANIDE AHALYSIS - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

	Sural No.
Man year - 22.55 gentle Could	Sking 100 2000 gentle
Neinos signos 102 Appur KELLUVERY (710: From Antigo	Distantination Melinod/Serviced Result Units Charge Code Results UNI Charge Code N124W Participation Charge Code N124W
Cuplomer ID	Semple Size Customer (O bit. K
180 GL - 10 ML - 500 ML 180 GL - 10 ML - 500 ML 180 GL - 10	Remains Calculations Assums NEALIENT ELANK
	ZO. This Ch.
35011-X RESULT (99.17) Blank = .004 DF. = 10-1 100 ARCC = 3.90 & 2.000 x 100 = 99.17, ARCC = 3.90 & 2.000 x 100 = 99.17, ARCC = 0.04303) ARCC = 0.04303	.004 - (004303) = .051 mg cn = < 0.1 mg cn
(.724004)-(004303) 4.45 mg CN 4.45 mg CN X 100 890 pm	162126
.162726 - 810 pm	
Anarysi - 1 Anarysi - 2 Anarysi - 3 Anarysi - 4 Anarysi - 8	Anarysi - 1 Anarysi - 2 Anarysi - 3 Anarysi - 4 Anarysi - 5
P(0) 2 8 Hrs Hrs Hrs Q 1982	POD 2 7 HES HES HES HES
Led Colon Tome Competed Lab Unit Bigs	Day Time Compased Like Unit Mgs
2-3-92 Dy Biomins function	2-3-92 04 Biserius Cartery
7455778 105AP P12-16-91 Try Marie 7547	Serial No. 446557E Serious From 103AP . Date 12-16-91 Too stand Property
Desermination Method/Stangerd Rysulf Units Charge Code Railune	Desermination Method/Stangers Or Passit Unit OVERY Chips Code Revise
	CN LA-393-102 Cystomer ID S1D
750uL 3APB9110	2.12
4.6 E-1 Mg CN = 6.1 E-1 PPM BLANK = 0.004	1004-10 ML-50041 Parante Calcustore, Person S244 KLN S2544 RESULT 886E2 PPR CN BLAKE 0.004 STDH 75C11-X
0.75m = (6.1E-1 PPH) BLANK = 0.004	STD VAL 8,98 E2 MA : REC 98.7% DF. 10m : 100
0.074-0.004)-(-0.004303)	(0.721-0.001)-(-0.001303) 4.43 ay CN 1N/2 0.1 mm 4.43 ay CN 4.43 ay CN 4.43 ay CN 6.5 mx 100 = 886 m/2 CN
0.074-0.004)-(-0.004303) 0.162726 = 4.6 E-1 mg CN	886 ×100 × (98.7%)
Analysi - 1 Analysi - 2 Analysi - 3 Analysi - 4 Analysi - 8	Analysi - 1 Analysi - 2 Analysi - 3 Analysi - 4 Xizaysi - 5
80028 No. 1945 No. 1945	90028 Ms Ms
Aus Time Competed Lab Unit Most	Cale Time Computed Lab Unit May
2-3-92 A. S. Lachet 2 Lux	2-3-92 S. Lachet September 1970-43
H-4600-081 gf-10-633	

TODAYS DATE: 02-03-1992

ROLL NO.: 80028

Y-INTERCEPT = -.004303

SLOPE= .162726

SAMPLE ID#: R-940 BLANK

SAMPLE SIZE: 0

WVL AND ABS= 580NM 0.004 A

SAMPLE ID#: R-939 75C11-X STD SAMPLE SIZE: 100UL-10ML-500UL WVL AND ABS= 580NM 0.724 A

SAMPLE ID#: R-941 SAMPLE SIZE: 750UL

WVL AND ABS= 580NM 0.073 A

-SAMPLE ID#: R-941 DUPLICATE

SAMPLE SIZE: 750UL

TVL AND ABS= 580NM 0.074 A

SAMPLE ID#: R-941 + SPIKE

SAMPLE SIZE: 750UL + 100UL-10ML-500UL 75C11-X SPIKE

W''' AND ABS= 580NM 0.790 A

. ^

SAMPLE ID#: R-942

SAMPLE SIZE: 750UL

WVL AND ABS= 580NM 0.075 A

.

SAMPLE ID#: R-943

SAMPLE SIZE: 750UL

-WVL AND ABS = 580NM 0.062 A

SAMPLE ID#: R-744

SAMPLE SIZE: 750UL

WVL AND ABS= 580NM 0.067 A

SAMPLE ID#: R-745 SAMPLE SIZE: 750UL

WVL AND ABS= 580NM 0.074 A

SAMPLE ID#: R-946 75C11-X STD SAMPLE SIZE: 100UL-10ML-500UL WVL AND ABS= 580NM 0.721 A

TECHNOLOGIST SIGNATURE: Ed Colo-

I : SIGNED: 2-3-/992

CALIBRATION CURVE LACHAT NON-DISTILLED 25ML

CYANIDE

DATE: 12-02-1991

CALIBRATION STANDARD # 351-R, 998 MG/ML CYANIDE

DILUTION FACTOR = 10/.1 = 100, WORKING STANDARD = 998 /100 = 9.9800

PIPET SIZE		MICROGRAMS CYANIDE		TOTAL ABS	NET ABS		
========	=====		====		=====		===
BLANK	*	0	*	.012	*	0	*
	*		*		*		*
50UL	*	.499	*	.0900	*	.0780	*
	*		*		*		*
500UL	*	4.990	*	.8090	*	.7970	*
	*		*		*		*
1000UL	*	9.980	*	1.6370	*	1.6250	*

Y INTERCEPT =-.004303 SLOPE = .162726 C C = .999953

WESTINGHOUSE HANFORD COMPANY 221-3 LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
ARSENIC	UNDIGESTED

Instrument:	Procedure/Rev:	
PERKIN ELMER WA77479	LA-355-131/B-0	
Technologist:	Date:	
D. R. JACKSON	1-7-92	
Starting Time:	Temperature:	
8:00	N/A	
Ending Time:	Chemist:	
3:00	R. K. FULLER	

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43

500

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	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5595	11		
2	REAGENT BLANK	R940-5695	12	•	
3	SAMPLE 3AP891-10	R945-5795	13		
4	FINAL LMCS CHECK STD	R946-5595	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Type	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	129B38C/.500 mL			N/A

A-6000-881 (03/92)

ARSENIC AMALYSIS - CHOIGESTED SAMPLE MHC-SD-MM-DP-025 Addendum 14 Rev 0

CA-JSS-131 RECOVERY RECOVER		างรัก		12-16-9		T.P.	K 940 - 50			12-16-9	1 los o	T.T.
10 VAI. CATO PARTIES AND STATE OF STATE	1 '	-355-131	Rosed Units	OVERY		Marage	f1 iii	F9-322-13	1	inds	श्रिक श्री	Reruna
10 10 10 10 10 10 10 10	500			-			1 7	2			LiL_K	
275 Analysi - 2 Analysi -	DE R/41 P	SZHTDRD	د د	514- 0.0	125-52.78	nya	REMUERT LI	HIK 0.12	-0.032	5 - 410	4 > - 24	
275 Andrew 2 Andrew 2 Andrew 3 Andrew 4 Andrew 3 Andre	SIDHIZ 4838C	RESULT 64	056 CPA	2 010177			0.124=px	HE 0.6	149		72 77	
275 ANDRY W. 2 ANDRY W. 3 ANDRY W. 4 ANDRY W. 3 ANDRY W. 4 ANDRY W. 4 ANDRY W. 3 ANDRY W. 4 ANDRY W	SID VAL GIO	TEREC 105.	6 7.	52.78 500 X	= 0.1056	err		6.1.	14 mga	100001	10	
225 Analysis 2 Analysis 2 Analysis 3 Analysi). \$1 1. [AMO							10	4 000	0.0000		
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10 10 10 10 10 10 10 10	(275		Test	4 //10	次次节点	92	1 1	Analysi - 2	Analysi - 3	Analysi • 4	2 47	1-92
7-92 Time Compassed Lab Lines May 1-7-92 Time Compassed Lines May 1-7-92 Time Comp	EJR GL	Hrs	Serg 3				HI A	Hra	Hrs	V da	7	
1	7.00	Completed Lab U	Jime bilge	1	7		Desa	Time Completed	Lab Limi Mgr	9,50	117	
Descrimentation Method Standard Resemble Chargo Code Returns Chargo Code Chargo		<u>-</u>			\$4-8400-08	hr-10-63)	1-1-12				54-8600	-081 -A-19-53 ₂
Companies Comp												
Due bise [-0x]		1708AF	!_	12-16-9	1 173772	N. P.	₹ 19405	AME OTE CYC		12-16-9	1	ьлюна
51.03 ngs 61.03 ngs	Herri	*555°131	Post-1 June		941224W	Aeruna		LA-355-13	1 Result 1	ECOVERY	HTS4M	
940 = 8KH + 0.942 - 0.0326 = 61.03 mgs 61.03 ngs 61.0	mple fize				SPE9110		1?	0			Customer ID S I D	
51.03 ngs = 0.061 pp m 1000 1 = 0.061 pp m 0.864= pkHt 0.116 pp m 0.106 pp	marks, Calculations, Fiesuss.	. 90	2				Remarks, Calculation	a, Results:		286V-0-0	₹2 f	
51.03 ngs = 0.061 pp m 1000 1 = 0.061 pp m 0.864= pkHt 0.116 pp m 0.106 pp	1940 = OKHE	0.17	.0149	1326	1.03 mg	34	STDH/19/1	RESULT	1116	0.0149	رج هست	-, 80 ng
Analysis 2 Analysis 2 Analysis 2 Analysis 3 Analysis 2 Analysis 2 Analysis 3 Analysis 2 Analysis 2 Analysis 3 Analysis 2 Analysis 3 Analysis 3 Analysis 2 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 4 Analysis 1 Analysis 2 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 4 Analysis 1 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 4 Analysis 1 Analysis 1 Analysis 1 Analysis 2 Analysis 2 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 4 Analysis 1 Analysis 1 Analysis 1 Analysis 2 Analysis 2 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 3 Analysis 4 Analysis 3 Analysis 4 Analysis 3 Analysis 4 Analysis 5 Analys							STD VAL	OPPH TERE	111.6%	55.80 ng	1 = 0.///	SPPA
Analysis -		100	10 1 m	0.061	ppm)	}	0.864= PK	HE 0	16 ppm	400 7	Cita .	, ,
Analysis -								0.1	OPPM	100 =	.60%)
Per	naryal - 1	ul - 2 Anaiy	/si - 3	Andry St · 4	2×21	42	Analysi - 1	Analysi - 2	Analysis	40 Dia	2X3	ille
7-92 Time Completed Lab Unit Mgr	ا ا ا	Mrs .	HI.	~	Alras "	•	791	Ples	HVI		mid la	
	ato Turne	Completed Lab L	ur sigs		<i>Z</i>		Date	Time Completed	Las Und Mgr	- Nosice		
				-	54-8600-06	I (A-10-83)	1-7-92		1		\$4-660	D-061 (A-19-63)
					`							

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY CALIBRATION RECORD

		CALIBRATION RECORD	
	Analyte: As Procedure: LA-355-131 Instrument: PERKIN ELMER Technologist: D. R. JACKSON	Property No.: WA77479 Payroll No.: 6C275	Date: 1-7-92
	Calibration Standard: 128B38C Analyte Concentration: 0.100 ppm Type of Calibration: LINEAR		
. ^	Dilution	Concentration	Instrument Reading Unit
10	1 0.000 mL	0.0 ng	0.000
, ~**	2 0.200 mL	20.0 ng	0.344
+ =====	3 0.400 mL	40.0 ng	0.662
4	4 1.000 mL 5	100.0 ng	1.501
	6		
5	7		
. ~	3		
	0		
	10		
کی د	11		
	12		
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	15		
C	16		
	17		
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	20		
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	Commonto		
	Comments:		
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1:1		0.69 1.0 d 3AR8917 0 79 4 Adder dum 14 Rev 0
		500 1 1-15 5 7 139335 C 3799 105, 9 7
	+	500 20 129B 35C 893 103.2 %
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اري م		2256 1,02 3AR89 14 500 1 10 2 2 10 2 3AR89 14 500 1 10 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
M2		0.207 1.0ml SAPON-1 1.0ml SAPO
~		0.016 10.0 No Reagest Blank 8932
65 55		
		20~3 Cal Cf., 1238381
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3 M E	i di	1-7-92 Raid = 5 m/m 1-7-92 Raid R Section 1290300 1-7-92 R Section 129030 1-7-92 R Section 129030
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WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

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Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
MERCURY	UNDIGESTED

Instrument:	Procedure/Rev:		
PERKIN ELMER WA77479	LA-325-102/B-0		
Technologist:	Date:		
D. R. JACKSON	1-21-92		
Starting Time:	Temperature:		
8:00	N/A		
Ending Time:	Chemist:		
3:30	R. K. FULLER		

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	Description	Lab ID		Description	Lab ID
_1	INITIAL LMCS CHECK STD	R939-5597	11	·	
2	REAGENT BLANK	R940-5697	12		
3	SAMPLE 3AP891-10	R945-5797	13		
4	FINAL LMCS CHECK STD	R946-5597	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	129B38D/.300 mL			N/A
	<u> </u>			

A-6000-881 (03/92)

MERCURY AMALYSIS - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

	1×Ht=0.194
Second Prior 12-10-91 Time Issues Printing 12-10-91 101 2 25	1246-0.71
Descrimation Method: Standard Result Units Charge Code Network Hg LA-325-102 72 RELOVERY N12 SW N12	
Sample Size	0-194 - 0-007 = 32.2 = 190
1300 2	0.0069
STOR 129878D RESULT 10.1074 PM 0: 0057	32.72 404
SID VALALIMORA TRECINALY OF	32.22 Ags (0.1074 8/h)
31, 40 7 - 1 1962 2041	
1-4-42 0.10 KZ-7m	1.04 0.0
RH=0.194 OVER 0.1601/2 100 =106.2 %	0.1070 pr ×100 = 107.4 0
Con 2-	0.1000897
PRE PRE PRE PRE	
Date Tues Composed Leb Unit May >	
1-21-92 " audices	2 1 1 1 Kana
64-3603-081 (A-M ² D)	
100 Mg 40 - 567 Sample Perils Cold 22-16-91 Ting same Pixty	PKHC2 0.006 R 940-5697
	10774 0.006
heroa siangue 102 Armel Inde	4.44
Chrodie 10	0.0060 - 0.88 AFE = 15 Mgs
New July Mark . 0-015 0.0016 may	0.0060
0.0057	-51ga (10.0005)
DRJ 1-21-92 DRJ 1-2192 = 25 Mg	100001
25 Mg - (0,005) ppm	
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Date Time Compared Like Unit Mgr	
1-21-17 () () () () () () () () () (
Second No. 2 - 43.63, gendlow Long Deep 5-17-61 Lines Maries Seconds	PKHt2 -0.508 R945-5797
Highwarean heteritariand 05 beht man Hara 400 bende	
	-0.008 - 0.0007 = -1.45 ngs = 25 ngs
3.0 Nl	0,0060
CKHH - 0.006 DD 0.006 - 0.0036 = 168 = 154	
1-21-92 0-0057 = 168= 454	
	25 Ma = 20.001 8pt
PKHE = 0,008 \$000) = 10,005 PPL	3000 /
7X1/C 2-0,008	
Analysi - 1 Analysi - 3 Analysi - 3 Analysi - 6 Analysi - 3	
60275 (122-92)	
Date Time Companied Lab Unit liqu	
V-2692	
3. 4600-061 JA - V- 63)	

MERCURY AMALYSIS = UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

- 10-41 18314 No.	3×46-5597
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380 L	
MATE CASCALLOR ASSUMED AGAINST AGAINST ACAINST	300 %
12 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0907 8P- x 100 =90.70 %
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WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY CALIBRATION SECOED

		CALIBRATION RECORD	
	Analyte: Hg Procedure: LA-325-102 Instrument: PERKIN ELMER Technologist: D. R. JACKSON Calibration Standard: 129B38D	Revision: B-0 Property No.: WA77479 Payroll No.: 6C275	Cate: 1-21-92
	Analyte Concentration: 0.1000 ppr	n	
	2 0.100 mL 3 0.250 ml. 4 0.500 mL 5 6 7 3 9 10 11 12 13	Concentration 0.0 ng 15.2 ng 38.0 ng 76.0 ng	Instrument Reading Unit 0.000 0.090 0.236 0.458
	14		
0	15 16 17 18 19 20		
	21		
	Comments:		

A-6000-882 (03/

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial #:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
SELENIUM	UNDIGESTED

Instrument:	Procedure/Rev:
PERKIN ELMER WA77479	LA-365-131/B-1
Technologist:	Date:
D. R. JACKSON	1-29-92
Starting Time:	Temperature:
8:00	NA
Ending Time:	Chemist:
2:00	R. K. FULLER

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5596	11		
2	REAGENT BLANK	R940-5696	12		
3	SAMPLE 3AP891-10	R945-5796	13		
4	FINAL LMCS CHECK STD	R946-5596	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	133B38A/0.500 mL			NA
]

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A-6000-881 (03/92)

SELEMIUM AMALYSIS - UMOIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

(1 / 1 / 1 / 1 - 1)	Live is a series	2619 22-10-	71 102 T	Schmid	11 HO	THOU YOU SHOW TO COME	Je-16	S-1/1 [Sud print]	Property
Determination 2562	t er sob=131	Result Units 12 RECOVERY	Charge Code H124W	Heruns	Optormination Sid	Hernon Standard 1:01	Seried frame	chalos time	Perfet
Sampie Size			STD STD		Sample Sule	g .	<u> </u>	Cupamer 10	
	SEZHTURU SA RESULTO.	14400 0.663-0	-124:57.	19 Ago	Nemarks, Calculato 1942 miluta 14.1	n ank	-0.021: < 5		
	130 PPM TIRED 112	57.11	7 =0.1144	eln	PKHC: -0	.021	100007	0,0005 19.	~
1x4e = 0.663	3	0.1744 Hr XIC	Ø € 114.38	2					
AND 275	Analysi - 2	ysi - 3 Anaiyei -	PX Tab	2-	6(27)		ryst - 3 Anarys	5 yr	26-92
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erial Mg 1945±−5.	_	Dese 17:-16-	91 Tons Haung	Sciolina	Seriel No R 946		Date 11d~1d		Priori
Selection (Selection)	Hernod Sungara I H-355-131	Result Units	CHT2-4th	Period	고든 Determination	L.A~005=131	Assult Units To KECOVERY	Line Sim	Pasturi
LODAL			SHEBY110		D. 500	1		Customer ID SELD	
MEMBERS CONCURSIONS		0-089-0.6	225 5.99	Ins	Pemeres, Calculatio EDF 10/43 STDH 1238	SEZHYDRD SEZHYDRD BA RESULTOTI	2100 0.650	0-0.0275 54.	03
						MONTH TERECH 2	000		
		5.94 raps -	0.0059 P	PM)	XHC=0.8		500	- 0.1/2	1 APL
	,	2007, E-184	2			0.112	1880 ×100 €	(112.06 72)
6-275	Analysi - 2 Analys	N - 3 Analyst - 6	2x 712	92	6C275		ym - 3 Aneiyu	2K A4	Zen -
LIREL	P\$r6	Hrs Hrs		77	a jegh		Pers	The state of the s	12
29-92	Time Completed Lab U	rut Mgr	//	7/-	1-29 -92	Time Completed Lab	Unit Mgr		

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY CALIBRATION RECORD

	CALIDIATION NECOND	
Analyte: Se Procedure: LA-365-131 Instrument: PERKIN ELMER Technologist: D. R. JACKSON Calibration Standard: 132B38A Analyte Concentration: 0.100 ppn Type of Calibration: LINEAR	Revision: B-1 Property No.: WA77479 Payroll No.: 6C275	Date: 1-29-92
, Bu .:		,
Dilution	Concentration	Instrument Reading Unit
1 0.000 mL	0.0 ng	0.000
2 0.200 mL	20.0 ng	0.274
3 0.400 mL	40.0 ng	0.468
4 1.000 mL	100.0 ng	1.132
5		
6		
7		
3		
9		
10		
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13		
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A-6000-882 (03/92)

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WESTINGHOUSE HANFORD COMPANY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R945	3AP891-10	
Analysis:	Sample Prep:	
ION CHROMATOGRAPHIC - CHLORIDE	UNDIGESTED	

Instrument:	Procedure/Rev:	
DIONEX 4000, WB54428	LA-533-105/B-1	
Technologist:	Date:	
M. MYERS	1-08-92	
Starting Time:	Temperature:	
N/A	N/A	
Ending Time:	Chemist:	
N/A	D. HERT	

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5572	11		
2	REAGENT BLANK	R940-5672	12		
3	SAMPLE 3AP891-10	R945-5772	13		
4	FINAL LMCS CHECK STD	R946-5572	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

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Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A
		1		

A-6000-881 (03/92)

IDM CHROMATOGRAPHIC AMALYSIS (CHLORIDE) - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

12-16-91 101 1 25	Squal Pop 10 5672 Septem Dyes Comp 12-10-91 Topic second Mayor 10 5672 10 5
Y395572	Describination Method/Standard Assurt Units Chause Code Resignal
TH-555-105	CL LH-333 100
Cuscome 10 S1D	Samples Size Considerate ID ERLA
MEMANA CACULLOPA PERMANENTE DIONEX	Remarks Calculations, Results NE ADENT BLANK
STON 732110C RESULT 4.9721 PM	
SID VAL 7.50 & 1 TREC 93.9	2.107000
PPM .	4.
- 6.	
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John Time Completed Lab Urm Mg.	Date Time Completed Lab Unit Mg/
1-3-93	Delie Time Complesed Lab Link Mgr
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	STD VAL 75087 2REC 100.65
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1-3-92	1-5-92
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WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R945	3AP891-10	
Analysis:	Sample Prep:	
ION CHROMATOGRAPHIC - FLUORIDE	UNDIGESTED	

Instrument:	Procedure/Rev:	
DIONEX 4000, WB54428	LA-533-105/B-1	
Technologist:	Date:	
M. MYERS	1-10-92	
Starting Time:	Temperature:	
N/A	N/A	
Ending Time:	Chemist:	
N/A	D. HERT	

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5571	11		
2	REAGENT BLANK	R940-5671	12		
3	SAMPLE 3AP891-10	R945-5771	13		
4	FINAL LMCS CHECK STD	R946-5571	14		
5			15		
6			16		
7			17		
8			18	4	
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A

A-6000-881 (03/92)

TON CHROMATOGRAPHIC AMALYSIS (FLUORIDE) - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

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ampie Stay		The Made			1	Sample Size					Customer 1D	
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222-S LABORATORY ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R045	3AP891-10	
Analysis:	Sample Prep:	
ION CHROMATOGRAPHIC - NITRATE	UNDIGESTED	

Instrument:	Procedure/Rev:			
DIONEX 4000, WB54428	LA-533-105/B-1			
Technologist:	Date:			
M. MYERS	1-10-92			
Starting Time:	Temperature:			
N/A	N/A			
Ending Time:	Chemist:			
N/A	D. HERT			

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	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5573	.11		
2	REAGENT BLANK	R940-5673	12		
3	SAMPLE 3AP891-10	R945-5773	13		
4	FINAL LMCS CHECK STD	R946-5573	14	·	
5	·		15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A
			*	

A-6000-881 (03/92)

10N CHROHATOGRAPHIC AMALYSIS (MITRATE) - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

% [™] 93955	75 See Bolling	Con 2-10-	C1 To: 1	51-52x	Saylas Mg 405	173 Sarry Shirt.	10	12-10-4	ı line and	PTHEMY
Determination 1:11.1-5	LA-500-105	** KECOVERY	SAMON EAST	Antes	Determination HUS	Meinos/Sunsira LA:-533-105	Result Unit	4	Cherge Cooe	Rezuna
Sample Side			Catalogues 10		Sample Size				Customer 10 Lil. K	
Romana, Cakunatona,	DIDNEX				DIREA REAGEHI EI				1.1.	
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Lac 873	Time Completed Lab	Und Mgr	and the	1	10CB73	Time Completed L	as Une bigr	Tols	wha	·
1-10.92		— [/	sueth	32 (A-14-82)	1-10-93					\$1 (A-10-6)
					1					
₩ % 4557	73 TOSAP	12-16-	91 173:12	PTIONY	Server Ho 74555	73 Samore Power	Date	12-16-91	Tyre inspec	Priority
Determination NU3	Helnou Stanoura LH-533-105	Pasua Linea	91240	Reigns	Determination	Melhod/Standard LA-533-195	Pageodi Lineta		निर्मा देवस	heryna
Sample Size			SAFEY110		NU3	LA7555-105	· KEL			
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1-10-92	Time Completed LAB	Unit Mgr			1-10-97	Time Completed Lab	Und Mgr	1910	(ce Duan	
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WH€-SD-WM-DP-025 Addendum 14 Rev 0

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R945	3AP891-10	
Analysis:	Sample Prep:	
ION CHROMATOGRAPHIC - NITRITE	UNDIGESTED	

Instrument:	Procedure/Rev:		
DIONEX 4000, WB54428	LA-533-105/B-1		
Technologist:	Date:		
M. MYERS	1-10-92		
Starting Time:	Temperature:		
N/A	N/A		
Ending Time:	Chemist:		
N/A	D. HERT		

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5576	11		
2	REAGENT BLANK	R940-5676	12		
3	SAMPLE 3AP891-10	R945-5776	13		
4	FINAL LMCS CHECK STD	R946-5576	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A
				-

ICN CHRCHATOGRAPHIC ANALYSIS (NITRITE) - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

Desermination HGZ	Melnod Standard LA-533-105	* KECOVERY	91 10: 2 91 240°	Pergns	Determination NU22	Method/Stagger 105	Responsation to the second	C1792-5787	Pervos
MUZ	124 000 144	13	Cystomer 10 STD		1	LA-333-100			
3 1000	e. 10ue		STD		Sample Size DiRE	C-T		CINOMA ID	
EDR KA28	DIONEX		,		HEADENI LI	LAHK			
	HOC RESULT 5								
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					21.0	14,			
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Laclasse	H	PV6	- Hand	-ion	Lulane Les	Wa Ma	1425 1- 2*	didina) h	Lu
60823	Time Competed Las	Und Mgr	while	4	60823	1,	200	sustran	
1-10-	1 ' 1 '		enk	ers	1-10-92	1	Unit Mgr		
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Patramenon	EASSS1905	Bit Home	P1122488**	Returns	Distermination NU2	TA-533-105	** KELOVEKY	C44764-6449a	Parkas
Sample Size			SHFEY9 1	0	Sample Size			Chalotter ID	
Partieras, Calcula	10 - 10 ml				Remarks, Cair sauces	al = 10 ml			
ا ۾ ا	ЕЗррм			1.	4 1	DIDNEX	* *7 67 **		
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WHC-SD-WM-DP-025 Addendum 14 Rev 0

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R945	3AP891-10	
Analysis:	Sample Prep:	
ION CHROMATOGRAPHIC - PHOSPHATE	UNDIGESTED	

Instrument:	Procedure/Rev:		
DIONEX 4000, WB54428	LA-533-105/B-1		
Technologist:	Date:		
M. MYERS	1-08-92		
Starting Time:	Temperature:		
N/A	N/A		
Ending Time:	Chemist:		
N/A	D. HERT		

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-5574	11		
2	REAGENT BLANK	R940-5674	12		
3	SAMPLE 3AP891-10	R945-5774	13		
4	FINAL LMCS CHECK STD	R946-5574	14		
5			15		
6			16		
_7			17		
8			18		
9			19		
10			20		

Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Туре	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A

A-6000-881 (03/92)

TON CHROMATOSRAPHIC AMALYSIS (PHOSPHATE) - UNDIGESTED SAMPLE MHC-SD-WM-DP-025 Addendum 14 Rev 0

100 100 100 100 100 100 100 100 100 100	Spring Page 100 10
Destination heaves standard 105 Pagent MACCUVERCY Corps Series Party Party 104 1.74 - 50.00 105 Party	Determination Learning LA Suprime Charles House
Sampes Sale Cystomer ID 7 S I D	Sample Suga
7.39 m/s = /0, and Passes Cascusons, Neuros EDP KY/G DIDNEX	TOTA E CT
STOR 732110C RESULT 5.0182 FCM	21.0000
SID VAL \$1/4 22 RREC 933	21.099
pan	
1.j.	
Indian Langua - Tealer Ling Amora Heat	Anarysi - 1 Anarysi - 2 Anarysi - 3 Anarysi - 4 Anarysi - 6
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Date Tune Completed Lie Line Mgr	Date Time Completed Lib Unit May Codice High
1 - B - 9 33	1. 3.42
34-400-061 (41-10-10)	\$4-8600-061 (A-10-a2)
K 9455774 10347 0412-16-91 13172 PANT	87 M M9 465574 300 900 Sup. Day 2-16-91 The Hands 250 M
Constitution Howa 3737 102 Label home Wile Elite Howa	PU4 Method Standard LA-533-105 Result Units NECOVERY N124W APPLY
250 ml · 10 ml · 250 ml · 10 ml ·	Sample Size Customer 10 S1D
Romarta Chichaldhal Grazonta	Permana, Casculatore, Pessels DIONEX
167,0 1.48 EZ PP-	STOR 73CMC RESULT 6.0982 PF
	STD VAL 5.7682 MREC 709.52
	N
fulgas Storm	Analysi - 1 Analysi - 2 Analysi - 2 Analysi - 4 Analysi - 2
mi mi mi mi	PUS PUS (PN)
Date Time Competed Las Unit Mgr	Date Time Completed Lee Unit Mgr
1-8-92	1-8-92 61-4000-061 (A (4)-12)
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WHC-SD-WM-DP-025 Addendum 14 Rev 0

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.18,000 .15,500 .12,000 .16,500 .15,000			3 - NIRITE	4 - Uningo WithATE					
5.500			A	 			7 - 8131	FATE	

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Minutes

2.00

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Lulam Lugers 1-10-92

5.00

WHC-SD-WM-DP-025

24 3-24.92 Addendum 14 Rev 0

Christal C. Dobactor: CINC.

124. Fel Component Concentration Height Aree RU. Week. Time Hame

File: e:|dx|data|91011001.D12 Sample: REAGANT BLANK R932 0.008 15 -0.042 -0.067 2.00 4.00 5.00 6.00 Mirines

le Name: LMCS/73C11DB 5573,5576+5'571

Data File : C:\DX\DATA\91011001.D10

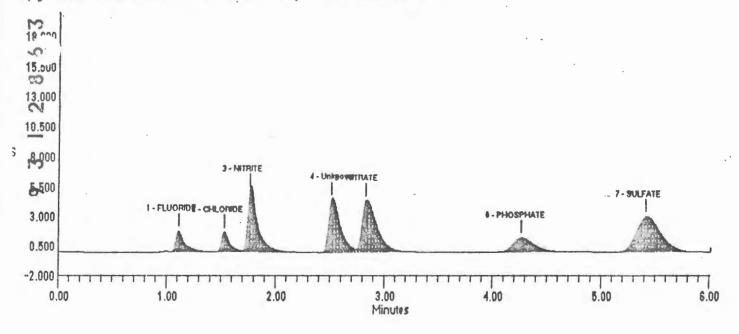
: c:\dx\method\SYSTEM1.met F

System: 1 10 ACI Address: 1 Inject#:

EPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
xternal	1	101	1805	5Hz	0.00	6.02		1000

	k. Lum		Component Name	Concentration	Height	Area	B1. Code	%Delta
-	1	1.12	FLUORIDE	57.607	1678	9360	1	6.35
	2	1.53	CHLORIDE	82.432	1654	8243	2	0.22
	3	177	NITRITE	532.059	5018	34496	2	0.95
	4	2.52		3433604.109	4396	33796	2	
	ET.	2.83	NITRATE	671.440	4312	41380	2	-0.58
	16	4.27	PHOSPHATE	528.861	1164	15470	.1.	-0.08
	7	5.42	SULFATE	618.495	2986	46460	1	-0.06
	420							

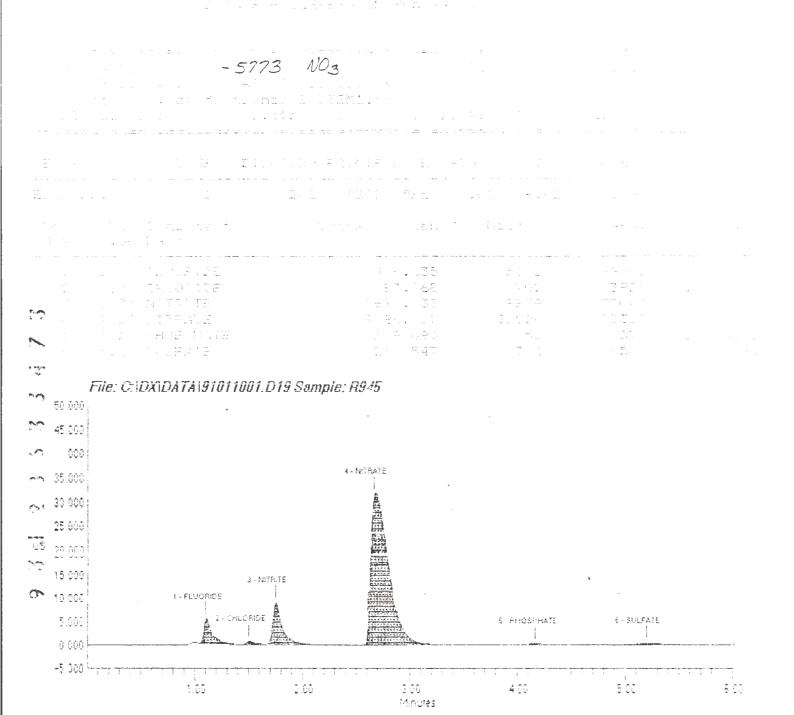
File: C:\DX\DATA\91011001.D10 Sample: LMCS/73C11DB



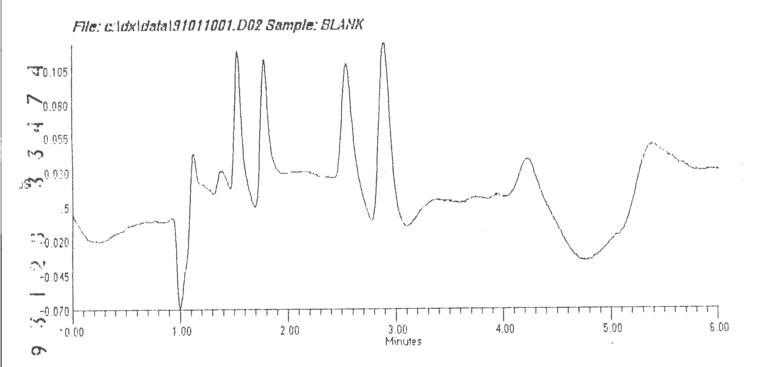
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				Concentration	Height			weet to
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,,,	1.52	CHALCHELOE		7 (1 - C) 10 to	1.421	7363		1.11
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				3402731,456	4542	222440	22	
Ľ.						40048		
⊘ !ó			101.8				₹.	-2.70
	5.27	SULFATE		617.751	2994	46378	1.	-15.89
*46	File: c:\d	dx dala 910110	01.D20 Samp	ile: LMCS/73C11DC				
5.453 5.			-			. :		
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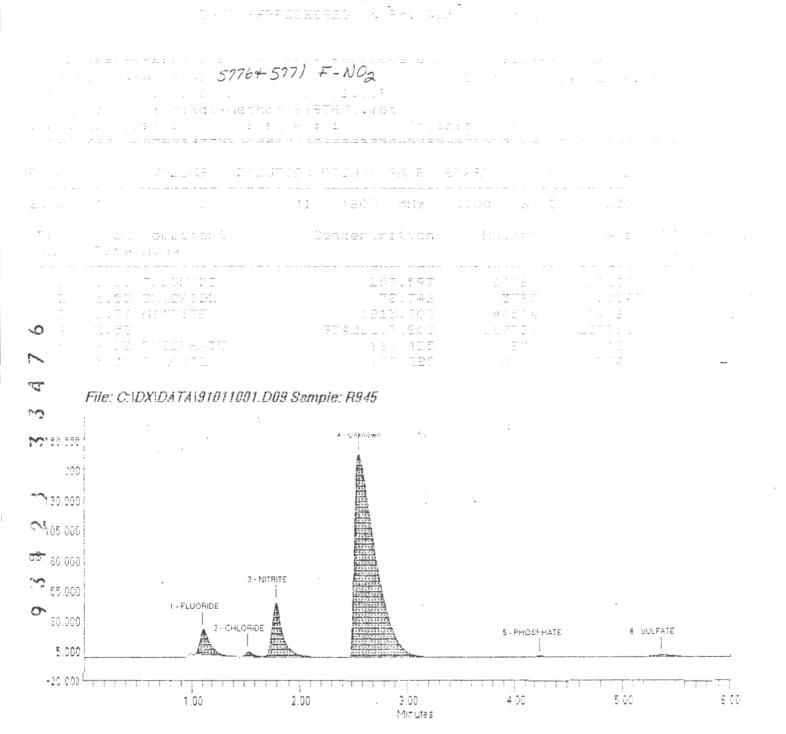
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: Sample Name: LMCS/730	C11DE 5573,5576+5571 NO	Date: Fri Jan	10 02:51:26 1992
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	ethod\SYSTEM1.met F		1
: ACI Address: 1	System : 1 Inje	ct#: 10 Detect	cor: CDM-1
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REPORT VOLUME I	DILUTION POINTS RATE	START STOP ARE	A REJ
External 1	101 1805 5Hz	0.00 6.02	1000
Pk. Ret Component	Concentration	Height	Area Bl. %Delta
Num Time Name			Code
1 1.12 FLUORIDE	57.607	1698	9360 1 6.35
2 1.53 CHLORIDE	82.432	1454	8243 2 0.22
in3 1.77 NITRITE	532.059	5018	34496 2 0.95
4 2.52	3433604.109	4396	33996 2
►5 2.83 NITRATE	671.440	4312	41380 2 -0.58
6 4.27 PHOSPHATE	528.861		15470 1 -0.08
7 5.42 SULFATE	618.495	2986	46460 1 -0.06
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Minutes

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WESTINGHOUSE HANFORD COMPANY

ANALYTICAL BATCH

2 12	
Lab Segment Secal No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
ION CHROMATOGRAPHIC - SULFATE	UNDIGESTED

Instrument:	Procedure/Rev:	
DIONEX 4000, WB54428	LA-533-105/B-1	
Technologist:	Date:	
M. MYERS	1-08-92	
Starting Time:	Temperature:	
N/A	N/A	
Ending Time:	Chemist:	
N/A	D. HERT	

Description	Lab ID		Description	Lab ID
1 INITIAL LMCS CHECK STD	R939-5575	11		
2 REAGENT BLANK	R940-5675	12		
3 SAMPLE 3AP891-10	R945-5775	13		
4 FINAL LMCS CHECK STD	R946-5575	14		
5		15		1
6		16		
7		17		
8		18		
9		19		
10		20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	73C11DC/.100 mL			N/A
			<u> </u>	

A-6000-881 (03/92)

ICM CHRONATOGRAPHIC AMALYSIS (SULFATE) - UNDIGESTED SAMPLE WHC-SD-WM-DP-025 Addendum 14 Rev 0

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Loc 323 Time Completed Las Line lags Se-660-081 (A-10-12) Las Line lags Las	Nysi - 1 Ansiysi - 2	Analysi - 3 Analy	N+4 / Aneval - 60		Analysi - 1	Analyst - 2 Analy	si - 3 Analysi - 4	Analysi - 5	
Time Composed Lab Und Mgr Jeached Lab Und Mgr		- Hu	(dans)	Stuff	Inlan Lu			Agriou	Hent
Case 1 (A-10-2a) As-4600-061 (A-10-2a) Se-4600-061 (A-10-2a)	60(223		Vesceil)	ed !	COC873		Test	ee Dian	
\$4-4600-081 (A-10-62)	1- 8-97	Lab Unit Mgr 2		5	1	Time Completed Lea L	Ind Mgr		
			. 64 4600-081 (A-10-83)				84-8600-06	[A-10-83)
					-				
						•			

DIONEX METHOD PARAMETERS - SYSTEM1.MET . 1 364 1

System Parameters	
ASSISTED Name : system1/gpm	
Number of Detectors: Detector 1 Type: Detector 1 real time plot scale (uS). Run (Ime (minutes). Sampling Rate (seconds).	CDM-1
Detector 1 real time plot scale (uS)	20.00
Run Time (minutes)	6.00
Mbampling Rate (seconds)	0.20
DETECTOR 1 PARAMETERS	
Save Data File	Yes
Data File Name: c:\dx\data\91010801.D07	1 = 27
Create ASCII Report File	No Yes
List Feaks Not Found in this run	No
Report Unknowns Found in this run	Yes
Print Chromatogram	Yes Yes
Fill Peaks with Color	Yes
Draw Grid Lines on Chromatogram	No
Label with Retention Times on Chromatogram	Yes No
Label with Component Name	Yes
Format File Name: c:\d:\method\default.prf	
Integration Parameters Starting Peak Width (seconds)	10.0 0.500 1000 1000 5.0
Integration Timed Events	
Time Description	air shi wa na
1.26 Start peak detection	
1.28 Start peak detection	
Calibration Farameters	
Number Of Levels for Calibration	6
Calibration Fit Type	Quadratic Replace
External or Internal Calibration	External
Calibrate by Area or Height	Area 1.G
Default Injection Volume	101.0
Response Factor for Unknown Feaks	1.0
Calibration Standard Volume	1.0

Sample Unit

FFM

Amount =	e Peak Fl KO + K1*Area 6.84259E-002 5.41881E-005 -6.00022E-011	+ K2*Area**2 WHC-SD-WM-DP-02	25	Size 7.00% :
L	evel Amount	Area	Heigh	t
1 2 3 4 5	2.80000E- 5.60000E- 1.12000E- 2.19000E-	-001 4: -001 8: -000 17: -000 42:	256 B	06 75 21
Amount =	t # 2 CHL e Peak FL KO + K1*Area 3.42635E-002 9.53630E-005 -6.22379E-011	LORIDE LUORIDE + K2*Area**2	Ketenti Window	on Time 1.42 Size 7.00%
L	evel Amount	Area	Heigh	A count of the count date that the count time time time time
1 23 4 5 6	3.30000E- 4.40000E- 1.31000E4 2.58000E4	-001 33 -001 53 -000 128 -000 27	208 5 502 13 886 24 623 50	29 58
*				
Referenc Amount = KO = K1 =	t # 3 NIT e Feak FL KO + K1*Area 4.41934E-001 1.39994E-004 -2.77337E-012	LUORIDE	Retenti Window	
L	evel Amount	Area	Heigh	
1 2 3 4 5 6	1.25000E+ 3.10000E+ 6.18000E+ 1.22300E+ 2.40000E+ 4.62200E+	000 195 000 399 001 816		77 50 32 11
Amount = K0 = : K1 = :	e Peak FL KO + K1*Area 2.98060E-001 1.56421E-004 -7.17711E-011 evel Amountid	+ K2*Area**2	Retenti Window H ei ah	
1 2 3 4 5	1,10000E 2,75000E 5,47000E 1,08200E 2,12300E 4,08200E	000 001 001 1444	363 986 190 140	767 17 18 18 18 18 18 18 18 18 18 18 18 18 18

WHC-SD-WM-DP-025 Addendum-14-Rev 0

Component # 5 BROMIDE Retention Time 2.55
Reference Peak FLUORIDE Window Size 1.00%
Amount = KO + K1*Area + K2*Area**2

KO = 8.78746E-002 K1 = 1.81945E-004 K2 = 5.81300E-010

Level	Amount	Area	Height
1 2 3 4 5 6	1.26000E+000	9418	543
	3.14000E+000	10041	957
	6.26000E+000	45736	2477
	1.23900E+001	47855	4298
	2.43100E+001	98344	8521
	4.68100E+001	167809	8473

Component # 6 PHOSPHATE Retention Time 3.85
Reference Peak FLUORIDE Window Size 10.00%
Amount = K0 + K1*Area + K2*Area**2

KO = 3.99318E-001 K1 = 3.17750E-004 K2 = -3.28707E-010

Level	Amount	Area	Height	
1 2 3 4 5	1.14000E+000 2.83000E+000 5.63000E+000 1.15600E+001 0.18800E+001 4.21500E+001	2718 8086 16751 34757 74341 156618	225 626 1277 2630 5560 11077	

Component # 7 SULFATE Retention Time 4.90
Reference Peak FLUORIDE Window Size 10.00%

Amount = KO + K1*Area + K2*Area**2KO = 4.93833E-001

K1 = 1.23085E-004K2 = -4.10577E-011

Levi	el Amount	Area	Height .	
1	1.26000E+000	8321	546	
2	3.14000E+000	21548	1429	
3	6.26000E+000	46141	2990	
4	1.23900E+001	97737	6333	
5	2.43100E+001	210064	13628	
6	4.68100E+001	440811	27239	

IC Control File: C:\DX\METHOD\SYSTEM1.TE

Step	Time	Description
Indiaitettetetetetetetetetetetetetetetetete		CDM-1 AutoOffset Off CDM-1 Recorder Mark OFF CDM-1 Temp. Comp. = 1.7 / Deq C CDM-1 Recorder Range =0.1 uS CDM-1 Cell ON CHA Heater = 25 Deq. C Valve A ON Valve B ON Inject Valve OFF ACI Autosmp OFF ACI TIL 1 OFF ACI TIL 2 OFF ACI AC 1 ON GFM Start GFM Hold Gradient Clock
Init 1 1 1 2 2 2 3 4	0.0 0.0 0.1 0.1 0.1	GPM Reset ON CDM-1 AutoOffset ON Start Sampling GPM Reset OFF CDM-1 Recorder Range = 10.0 uS Inject Valve ON GPM Run Gradient Clock Inject Valve OFF

```
GpmFile: C:\DX\METHOD\SYSTEM1.GPM
Lo Pressure Limit = 200
Hi Pressure Limit = 2000
Eluant 1 - DI WATER
Eluant 2 - SODIUM CARBONATE
Eluant 3 - SODIUM BICARBONATE
Eluant 4 - Eluant 4

Time Flow 21 22 23 24 25 26
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Time	Flow	%1	%2	%3	%4	V5	V6	Comment
0.0	2.0	84	9	8	O	O	O	-

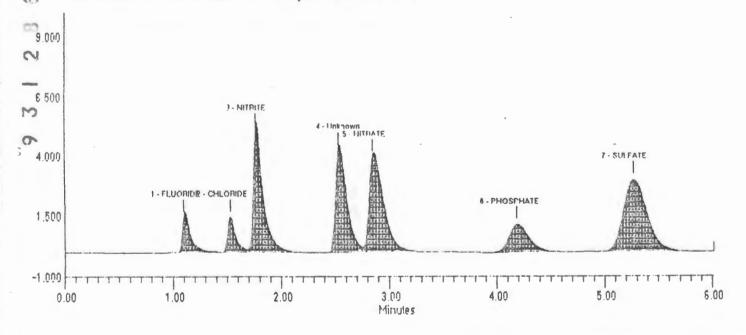
WHC-SD-WM-DP-025 Addendum 14 Rev 0

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Capule Henre: LMCSFSCLIDE	Date: Med Jan 08 27:40:50 tess:
Date File : C:\DX\DATA\SLOTOGSU.)02	
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	A SANGE E L' SOURCE SERVIC DE CONTRA DE L'ANDE

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۲۶ ص	1.10 F1'00 1.53 CHLC	RIDE /00.	45	51.23. 75.488 JG.148	1.4 1.4 50	, ,	15 2	
4 5	2.53 2.85 NHT		6.	45.413 18.347	43 40	00 3789	93 2	
17	4.18 PHOS			09.661 09.68	***	45 1490 32 4570	.,,	3.72

File: C:\DX\DATA\91010851.D02 Sample: LMCS73C11DC



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Lulama Lupers 1/8/7

WHC-SD-WM-DP-025 Addendum 14 Rev 0 413 167:7 400.9)162.8 File: c:\dx\data\91010801.D39 Sample: LMCS/73C11DC 730 1 - FLUORIDE

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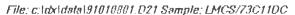
Minutes

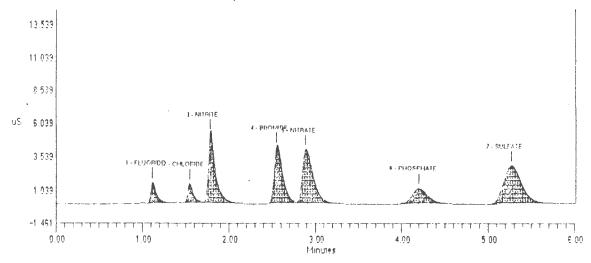
1.00

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A - SULFATE

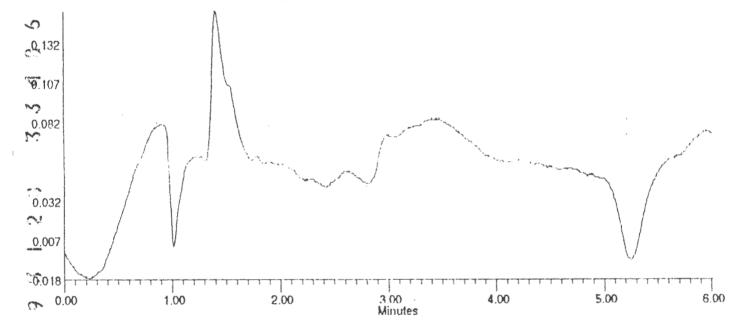
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File: c:\dx\data\91010801.D22 Sample: REAG BLANK R940



WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP391-10
Anaiysis:	Sample Prep:
GAMMA ENERGY	UNDIGESTED

Instrument:	Procedure/Rev:
WB57237, WB57265	LA-548-121/D-0
Technologist:	Date:
L. TEMPLE	1-04-92
Starting Time:	Temperature:
00:30	NA NA
Ending Time:	Chemist:
1:20	S. CATLOW

	Description	Lab ID	7	Description	Lab ID
1 IN	ITIAL LMCS CHECK STD	R939-5530	11		
2 RE	EAGENT BLANK	R940-5630	12		·
3 SA	AMPLE 3AP891-10	R945-5730	13		
4 FII	NAL LMCS CHECK STD	R946-5530	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Type	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	48B49/.100 mL			NA

EARMA EMERGY AMALYSIS - FUSION DISSOLUTION WHC-SD-WM-DP-025 Addendum 14 Rev 0

R 939, -5530 103AP 12-16-91 161 1 25 Comparison Com	R 930 - 9330 103AP 12-16-91 16:1 2 2 1	Off ler ted	Thanks room	- Mood 1	Soig Fie		2906 Sept 100	Jamona Pouni	Veel	and Fer	-GEA	JK 15-
STATE Continue C	Commentation Comm		1	12-14-	91 14. 1						16: 2	
Common	SEA (LA-548-12) 1: SECOVERY 141244 0 CAMBRID TO STD (STD (ST) 15 ST) 15 SECOVERY 15 SECOVERY						1	1				
2.	2		LA-548-121	# RECOVERY		0		LA-548-121	Juc 17			
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COUNT AS UTILL No. 12 - 12 - 12 - 12 - 12 - 12 - 12 - 12	COLM STD1 43 5/19 (6.137) + 101 10 107.4/. RESULT RECORD 17 KILL ASSER PENTINE LLS 7 10 1/1 Ce 114 - 119 50 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	lemares. Calculations,	Parents.	0060 =60		,			Ž.	06 - L3.8	110-7 mli/	₹
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C 13 7 9 5 15 16 3 Add 1 Add	Solid Regist Re	RESULT Sinsula-	% REC / / 22	N694 1	1A		C0 60 -	(2.1 \$ 10 3 "	140			
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2917 New 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	39/5 : Nie il long form GEA 3K 4592 Senson the manager than John John John John John John John Joh	1-4-92	A	K Sell of 100 for				1000 Completion	J.KCD	201010	1	113
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Description of the property of	Distribution Description	ior-ei Pio	Sample Point	Date	Time leaved	PERCHY	Serial No	Semple Point		Dese	Turne Issued	Priority
Sample Note	SEA LA-548-121 UCI/L M124W 0 Sample Size Coulome 10 SAFB9110 SAFB911					11						
3APB9110 7	7,100m - 10m - 500m 3AP89110 PREMARIA CLUCLATION RELIANT COUNTY AS UCTIV LASER PRINTOUT EUISY1/55 + 23.276 AK/1 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 EVISY1/55 E		1		1			i .				
Remain Calculation Result Color	Remains. Casculations. Retain. COUNT - 10m1 - 500 a. Remains. Casculations. Retain. COUNT AS UCT/L LASER PRINTIDUT EUISY/ISS + 23.3 Flo Ak/L COLX STD YAL 510 CS137 + 7.49 Flo CS137 + 7.49 Flo COUNT STD VAL EUISY/ISS + 23.3 Flo Ak/L COLX STD YAL STD VAL STD VAL STO VAL S	iampie Sue					Sample Size					
COUNT AS UCI/L LASER PRINTOUT NB94 - L8.5 - NB95 - STD VAL SITE IN IN IN IN IN IN IN IN IN IN IN IN IN	COUNT AS UCI/L LASER PRINTING Nb94 - L8.5 - Nb94 - L8.5 - SUIST/ISS + L3.27 to Ab//L Color - L1.17 to Color - L1.17 to Color - L3.17 to Color - Color - C3.17 to Color - C3.1											
EU 154/155 - 23.2710 Ab/12 Ce 144 - 263710 TEREC 185.47 Ru 106 DESCRIPTION OF THE PROPERTY OF	EU 154/155 + 43.276 Ce 144 -> 41.376 RESULT RES					m6/1:	COLX STD	# 48B49		C060 -	2.58 \$10'	
SAITS STD VAL 5: \$100 NB 4 RESULT RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RESULT STD VAL 5: \$100 NB 4 RESULT RESULT STD VAL 5: \$100 NB 4 RES	SAII 3 - 22.74 of COGO - 21.17 18 RG 226 - 23.1710 RESULT	ASER PRIN	TOUT	, Nb94 -	¥ 68.5	-	R901	STD VAL	1.01	_		ĺ
2060 -> 61.1 × 18	Co60 -> 41.1718 Rq 226 -> 43.1710 RESULT REC 110 NA C5 137 -> 4.23 x10 x 6/12 M 91 c2.17 tc/ll AMAYNI-1 81 808 Resultance The recompanion recompan	2 113 7/133	12.7 410		> 113762		RESULT	REC II	n.47.)	
S137 - 4.13 x 10 2 4 1 1 94 4 1 1 1 94 4 1 1 1 1 1 1 1 1 1	CS 137 -> 4.23 x 103 ACIL N 91 C217 4CIL ANALYSI -1 ANALYSI -2 ANALYSI -3 AN	57112	412.1		_			REC	FIQ"		(NA	l
SI 808 ENGLECO THE THE THE TOTAL Completed Landing MIN 194 OF SI 100 OF SI 1	Analysi - 1 81808 ENGLICIO Tres Tres Tres Tres Completed Lab Unique Tres Tres Completed Lab Unique Tres Tres Tres Completed Lab Unique Tres Tre	2060	21.1 > 16	NG 221	CIB CHIER		Eu 154/155		•	Ce 144		
SI 808 ENGLIC THE THE THE THE TOTAL COMPLETED THE COMPLETED TO THE COMPLETED THE STATE OF THE ST	Analysi - 1 81808 ENGLICIO Tres Tres Tres Tres Completed Lab Unique Tres Tres Completed Lab Unique Analysi - 6 Analysi - 7 Analysi - 8 Analysi - 9 Analysi -	S137 +	4.23 2103 461	1 N 91	4847 46/1		Sx113	/ nr		Ra 226		
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Type Compared Lab United (1) 15 on Compared Lagrange MA (1) 15	Las Lines Compared Las Lines Compared Las Lines Compared Language May 1-4-92 Time Compared Language May 1-4-		Entereco					on Barola	,			
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54-9000-di (A-10) 367	14-4000-da 1 (A-10) 3d	Data//	Time Completed Lab	Unpular 100 1 150		///		Time Completed L	The more	lasa	101	
		1-4-92	. A.	Kircher alsolu		Less	1-4-92	1	1500	ואון	Cert	11
			Y	14	14-5800-	081 18-10-14					\$4-6400-06	1 (#-10_36)
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GARRA SPECTRUM ARALYSTE

CANBERKA SPECTRAN-F V2.06 SOFTWARE WHC-SD-WM-DP-025 Addendum 14 Rev 0 222-S COUNTING ROOM

-04-JAR-92 03:04:56

ANALYSIS PARAMETERS

MCA UNIT NUMBER: 1 ADC UNIT RUMBER: 2.0 DETECTOR NUMBER: 2 / GEOMETRY NUMBER: 42

SPECTRUM SIZE: 4096 CHANNELS

ORDER OF SMOOTHING FUNCTION:

NUMBER OF BACKGROUND CHANNELS: 4 ON EACH SIDE OF FEAK

PEAK CONFIDENCE FACTOR: 85,0%

IDENTIFICATION ENERGY WINDOW: +- 1.50 KEV ERROR QUOTATION: 1,96 SIGNA UNCERTAINTY

ENVIRONMENTAL BACKGROUND SUBTRACTED LLD CALCULATION PERFORMED MEASURED ENERGY DIFFERENCES LISTED MULTIPLET ANALYSIS PERFORMED

SPECTRAL DATA READ DIRECTLY FROM MULTICHARMEL AMALYZER AND: ANGLYZED BY: 39549

SAMPLE DESCRIPTION: R939-5530 GEOMETRY DESCRIPTION: 22ML LIQ / CONVERSION FACTOR: 1.0000E-01 SAMPLE SIZE: 1.0000E-03 LI STANDARD SIZE: 1.0000E+00 EA ANALYSIS LIBRARY FILE: ANLOGO

COLLECT STARTED ON A-JAN-92 AT 02:14:40

COLLECT LIVE TIME: 3000. SECONDS 3002, SECONDS REAL TIME: 0.07 %

119.7

DEAD TIME:

O, BAYS: 0.0000 HOURS BEFORE THE START OF COLLECT DECAYED TO

ENERGY CALIBRATION PERFORMED 17-MAR-89 EFFICIENCY CALIERATION PERFORMED 16-May-91

BESTAVALLABLE COPY

WHC-SD-WM-DP-025 Addendum 14 Rev 0

202-8 COUNTING ROOM

OCCAPCED EVENAL-10

SAMPLE: R939-5530

DATA COLLECTED ON 4-JAN-92 AT 02:14:40

DECAYED TO 0. DAYS: 0.0000 HOURS BEFORE THE START OF COLLECT.

RADIONUCLIBE ANALYSIS REPORT

NUCLIDE	ACTIVI	TY CONCENTRAL		CIZLI		
			DECAY	# 10 fb fb fb	(KLV)	
	MEASURED	ERROR	CURRECTED	ERROR	EAFECT	T, T L. L.
AC~228 II	D<4.55E+00	LLT	K4.55E+00		711.07	
	IN<4.56E+00		K4.56E+00		911.07 911.10	
	IN <5,68E+00		145,68E+00		338,40	
	D<9.64E-01		K9.64E-01		433.94	
	D<4.58E+00	LLI	1<4.56E+00		657.76	
	D<5.27E+00	LLI	3<5,27E+00		59,54	
AM-243 LI	D<1.34E+00	LLI	141.34E+00		74.67	
	D<1.34E+00		K1.34E+00		74.67	
	_D<1>49E+02		0<1.49E±02		43.10	
	D<3.95E-01		HG6.95E-01		1293.64	
	D<9.31E-01		1<9.31E-01		411.80	
BA-133 LL	D<1.26E+00	1. []	3<1,23E+00		306,02 165,85	
	_D<2.77E+00)<2,77E+00)<3,69E+00		537,27	
	D<3.69E+00)<2.48E+00		190,23	
	_D<2.48E+00 _D<8.53E+00		1<8.55E+00		477.59	
	_N<9.80E-01		0<9.80E-01		569,70	
	_D<7.80E=01		3<7.80E-01		727.27	
	_D<5.83E+00		0<5.83E+00		609.32	
	n<5.83E+00		145.83E+00		609,32	
	LD<7,93E+00		0<7.93E±00		1120,28	
	_D<2.37E+00		3K2.37E+00		1764.51	
	B<1.74E+01	L1_I	0<1.74E+01		E0.88	
	LDK6,26E-01	LL)	0<5:23E-01		165,85	
0E-141 LL	B<9.72E-01	LLI	0<9.72E-01		145.44	
	D<7.59E+00		1<7.59E+00		133.51	
00-56 LI	LB<1,05E+00	L L. 1	1<1.05E+00		846,76	
	D<4.93E-01	LLI	0<4.93E-01		122.03	
	_B<1.05E+00	L. L. I	M1.05E+00		810.75	//
00-60	6.05E+01	4-3.04E+00	6.05E+01	+-3.03E400		-0.73
					1173.24	-0.70
CR-51 LL	_D<6.76E+00	LLI	M.S. / SETOO	L 1: 03E100		-0.Ga
08-134	5,14E+01	+-3.24E+00	5.14E+01	T"3.29ETUU	604.70	-0:44
00-17/	D.01 075400	1.1.7	0<1.03E+00		818.51	O1-1
08-137	_D<1.03E+00	+-3.23E+00		+-3,23F400		-0.48
	LD<1.32E+00		0<1.32E+00	,	1435,83	
	LD<2.77E+00		3<2.77E+00		1408.01	
	LD 02.10E+00		0<2,10E+00		1274,40	
	LD<2,27E+00	LI	0K2.27E+00		105.31	
FE-59 LI	LD<2.38E+00	LLI	0<2,38E+00		1099.23	
HF-181 L	LD<1.07E+00	LLI	0<1.07E+00		482,20	
HG-203 L	LD<6.92E-01		0<3,92E-01		279,20	
	LD<9.58E-01		009.58E-01		364.48	
	LD<1.41E+00		0<1.41E+00		667.69	
	LD<9,92E-01		0<9,92E-01		329,69	
	LIK(1.63E+00		0K1.63E+00		847.03 1260.41	
	LD<2.60E+00		0<2,60E+00 0<4,94E+00		1460,75	
	LD<4,945+00 LD<2.07E+02		B<2.07E+02		513.99	109
	LD<6,34E-01		0<6.34E-01		151.17	
P. P (3 -24) L. (4.1)	EDVO104E-01	L 1 1	5 (5 F 5 F C T			

Addendum 14 Rev 0 220,80 1598,20 LLDK5;E1E-0; 641.83 LL8<2,08E+00 834,53 LLD(9,73E+0) R934.5530 846.76 LLIK1.19E+00 1274.35 LLDK7.49E-01 1368,60 LLD-(1,00E+00 702.63 LLB<8.99E-01 735.78 LLUK9.91E-01 657,92 LLD<5.16E+00 88.00 LLD<4.98E+00 934,45 LLD<4.4SE+00 277,60 LLD<4.36E+00 311,98 LLD<1,71E+00 1001,03 LL0<2.06E+02 LLD<1.40E+02 46.50 239.00 LLD<1.32E+00 LLU<1,32E+00 239,00 300,10 LLD<2.00E+01 351.92 LLD<1.84E+00 351,92 LL10<1.80E+00 LLD<3.25E+00 295,21 804.00 LLD<8,75E+04 799,70 LL8<4.00E+04 304.90 LLD<7.37E+04 129.30 LLD<7.33E+03 148,57 LLU<2.33E+05 240.99 LLD<1.45E±01 186,10 LLD<1.37E+01 1335:00 LLD<5,69E+00 1031.88 LLD<5.14E+00 549,73 LLD<7,91E+02 497,08 LL0<9.13E-01 521,80 LLD<1.86E+01 602.72 LLD<1.26E+00 LLD<7.49E+00 176,33 1120.45 LLD<1.19E+00 264.66 LLB(1,08E+00 391.67 LLU<1,29E+00 513,99 LLD49.07E-01 LLD<1,75E+00 555,60 1383.74 LL0<6.66E-01 1121.30 LLD<3.64E+00 140.51 LLB<5.12E-01 159,00 LLD<5,33E-01 109.27 LLD<1.59E+02 228.16 LLD<6.18E-01 84,37 LLD<5,64E+01 92,50 LLD<1.01E+01 92,00 LLD<1.01E+01 LL0<3.6UE+01 33,30 583.14 LLD<1.20E+00 185.71 LLD<9.72E-01 185.71 LLD<9.72E-01 143,76 LLD<4.54E+00 LLB 02.58E+00 208.00 LLU<3.43E+00 535,74 163,98 LLD<2,53E+01 LLB<1.94E+00 81,00 233,21 LLD<5.57E+00 249.79 LLIK6.39E-01 258,41 LLD<4.89E+00 1836,06 LLD<5.35E-01 1204,90 LLB<3.22E+02 LLD<1.32E+00 355.60

WHC-SD-WM-DP-025

LLD<2.98E+01

LLD45.31E-01

LLUK2.088+00

LLIK9.74E-01

LLB<1.19E+00

LLD<7,49E-01

LLB<1,00E+00

LLIK8.99E-01

LLEK9,91E-01

LLD<5.16E+00

LLIK4.98E+00

LLB<4,4SE+00

LLD<4.36E+00

LLD<1.71E+00

LLD<1.40E+02

LLD<1.32E+00

LLB<1.84E+00

LLD<8.75E+04

LLD<4.00E+04

LLB<7.37E+04

LLD<7.36E+03

LLD<2,33E+05

LLD<1.45E+01

LLD<1.37E+01

LLD<5.54E+00

LLIKS.14E+00

LLB<7.91E+02

LLD<9,13E-01

LLD<1.83E+01

LLB<1,28E+00 LLB<7,49E+00

LLIK(1,19E+00

LLD<1.08E+00

LLD<1.29E+00

LLD<9.07E-01

LLD<1.75E+00

LL0<3,35E-01

LLD<3.64E+00

LLD<5.12E-01

LLD<6.18E-01

LLD<5,63E+01

LLD<1.01E+01

LLB<1.20E+00

LLD<9.72E-01

LLB<9,72E-01

LLD<4.54E+00

LLB<2.58E+00

LLD<3,43E+00

LLD<1.94E+00

LLD<6.39E-01

LLD<4.89E+00

LLD<5.35E-01

LLD<3.22E+02

LUD<1.32E+00

TE-123M LLD<5.66E-01

TE-125M LLD<1.59E+02

TH-234A LLD<1.01E+01

TH-2348 LLD<3,65E+01

XE-131M LLD<2.53E+01

XE-1338 LLU<5.57E+00

PA-234N LLD<2,06E+02

PB-212A LL0<1,32E+00

PB-212B LLB<2.00E+01

PB-2146 LLD<1.89E+00

PB-214B LLD<3,25E+00

KR-89

LA-140

1.6-142

1111-54

MM-56

NA-22

NA-24

NB-94

NB-95

NB-97

NF-237

NF-238

NF-239

PA-233

PB-210

PB-212

FB-214

P0-210

P0-214

F0-216

PU-239

PU-241

RA-224

RA-226

RB-88

RB-89

RN-220

RU-103

SB-124

SB-125

80-46

SE-75

SR-85

SR-91

SR-92

TA-182

TO-99M

TE-132

TH-228

TH-234

TL-208

U-235A

U-235B

U-237

W-187

XE-133

XE-135

XE-138

Y-88

7-91

7-91M

U-235

SN-113

RURH106

WHC-SD-WM-DP-025 Addendum 1.4 Rev O LLDK1.64E+00

ZR-95 LLDK1.64E+00 ZR-97 LLD<1.01E+00

LLBK1.01E+00

758.73 743.33

TOTAL

2.02E+02 +-5.50E+00 2.02E+02 +-5.50E+00

B 939-5530

STANDARD DEVIATION - 0.13

EBAR * **** MEV/DISINTEGRATION X4-5-91 MAXIMUM PERMISSABLE ACTIVITY = 1.30E-09 UC/LT TOTAL MEASURED ACTIVITY = 2.028+02 (+-5.508+00) UC/LI 发 TECH。 SPEC。 -- 冰水冰冰冰水 (十一次冰水水)

ERROR QUOTATION AT 1.96 SIGMA LLB CONFIDENCE LEVEL AT 85.0%

PEAKS NOT USED IN ANALYSIS

CENTROID CHANNEL	ENERGY KEV	NET AREA COUNTS	ERROR %	RAMMAS/SEC
1126.19	562.73	252.	20.9	1,49E+01
1138,50	548.88	482.	17.6	2.88E+01
1603.53	801.35	195,	12.8	1.60E+01
2729.65	1364.37	66.	28.2	B,24E+00

CAMBERRA SPECTRAN-F 92.06 SOFTWARE

222-S COUNTING ROOM

04-JAM-52 04105148

ANALYSIS PARAMETERS

MCA UNIT NUMBER: 1 / ADC UNIT NUMBER: 2.0 DETECTOR NUMBER: 2 / GEOMETRY NUMBER: 42

SPECTRUM SIZE: 4096 CHANNELS

ORDER OF SMOOTHING FUNCTION: 5

NUMBER OF BACKGROUND CHANNELS: 4 OR EACH SIDE OF FEAK

PEAK CONFIDENCE FACTOR: 85,0%

IDENTIFICATION ENERGY WINDOW: 4- 1.50 KEV

ERROR QUOTATION: 1,95 SIGNA UNCERTAINTY

ENVIRONMENTAL BACKGROUND SUBTRACTED

LLD CALCULATION PERFORMED

MEASURED ENERGY DIFFERENCES LISTED

MULTIPLET ANALYSIS PERFURMED

SPECTRAL DATA READ DIRECTLY FROM MULTICHANNEL ANALYXIR AND:

ANALYZED BY: 59549

SAMPLE DESCRIPTION: R940-5630

GEOMETRY DESCRIPTION: 22ML LIG

SAMPLE SIZE: 2.2000E-02 L1 / CONVERSION FACTOR: 1.0000E+00

STANDARD SIZE: 1.0000E+00 EA ANALYSIS LIBRARY FILE: ANLOGO

COLLECT STARTED ON A-JAM-92 AT 03:15:36

COLLECT LIVE TIME: 3000, SECONDS

REAL TIME: 3000. SECONDS

NEAD TIME: 00.00 %

DECAYED TO 0. DAYS: 0.0000 HOURS BEFORE THE START OF COLLECT

ENERGY CALIBRATION PERFORMED 17-MAR-89 EFFICIENCY CALIBRATION PERFORMED 10-MAY-91

WHC-SD-WM-DP-025 Addendum 14 Rev 0

X 4-15-92

222-S COUNTING ROOM

R940-5630

04-JAM-72 04100148

PEAK ANALYSIS

PK					NET AREA COUNTS		NUCLIBES
1.	1323.20	661.21	1,83	32,	95.	27.3	DS: 137
1 E		351.35			3 6,	13.9	
2	2921.66	1460.37	1.98	8.	147.	17.4	K-40
28		1450.85			156,	3,8	

ERROR QUOTATION AT 1.96 SIGMA PEAK CONFIDENCE LEVEL AT 85.0%

B - ENVIRONMENTAL BACKGROUND FEAK

BACKGROUND SUBTRACTION PERFORMED USING FILE BK0012

BACKGROUND DESCRIPTION: BKG

BACKGROUND COLLECT STARTED ON 30-AUG-83 AT 16:46:00

BACKGROUND LIVE TIME: 60000. SECONDS

WHC-SD-WM-DP-025 Addendum 14 Rev 0 BEST AVAILABLE COPY

222-S COUNTING ROOM

04-JAH-92 04:00:48

SAMPLE: R940-5630

DATA COLLECTED ON 4-JAN-92 AT 03:15:36

M

DECAYED TO 0. DAYS, 0.0000 HOURS BEFORE THE START OF COLLECT.

RADIONUCLIDE ANALYSIS REPORT

				ENEWAY 600	6.46.70.00
NUCLIDE	ACTIVI	TY CONCENTRATION IN UC	i/LI	ENERGY COM	FARIBUN
		DECAY	ERROR	(KEV)	DIES
	MEASURED	ERROR CORRECTED	EKKOK	EXPECT	1.111
AC-228	LLD<6.05E-03	LLB<6.0SE-03		911.07	
	LLD<4.61E-03	LLD<4.61E-03		711.10	
	LLB<1,00E-02	LL0<1,00E-02		338,40	
	LLD<1.69E-03	LLD<1.69E-03		433.94	
	LLD<3.62E-03	LLD<3.62E-03		657.76	
	LLD<1,19E-02	1.LD<1.19E-02		59,54	
	LLD<3.30E-03	LLD<3.30E-03		74.67	
	LLD<3.30E-03	LLD<3.30E-03		74.67	
	LLD<3.26E-01	LLD<3.26E-01		43.10	
AR-41	LLD<3.03E-03	LLD<3.03E-03		1293.64	
AU-198	LLD<1.33E-03	LLD<1.33E-03		411.80	
	LL0<2,22E-03	LLD<2,22E-03		354.02	
	LLD<5.88E-03	LLB<5.88E-03		145.85	
BA-140	LLD<6.09E-03	LLD<6.09E-03		537.27	
BA-141	LLD<5.33E-03	LLD<5,33E-03		190,23	
BE-7	LLB<1.42E-02	LLB<1.42E-02		569.70	
	LLD<1.81E-03	LLD<1.81E-03 LLD<1.33E-02		727.27	
	LLD<1,33E-02	LLD<4.17E-03		609.32	
	LLD<4.17E-03	LLD<4.17E-03		609.32	
	LLD<4.17E-03	LLD<1,26E-02		1120,28	
	LLB<1.26E-02 LLB<1.29E-02	LLD<1,29E-02		1764.51	
	LLB<4.15E-02	LLD<4.15E-02		88.03	
	LL0<1,33E-03	LLD<1,33E-03		165,85	
CE-139 CE-141	LLB<2.27E-03	LLD<2.27E-03		145.44	
	LLD<1.79E-02	LLD<1.79E-02		133.51	
CD-36	LL0<1.81E-03	LLD<1.81E-03		846.75	
CO-57	LLD<1.15E-03	LLD<1:15E-03		122.06	
CO-58	LLB<1.95E-03	LLD<1,95E-03		810.75	
00-60	LLD<2.14E-03	LL0<2,14E=03		1332,50	
CR-51	LLD<1.21E-02	LLB<1.21E-02		320.09	
CS-134	LLD<2.00E-03	LLD<2.00E-03		795.84	
CS-136	LLD<1,98E-03	LLD<1.98E-03		818.51	5 4 4
CS-137		+-2,62E-03 5.83E-03	+-2.62E-03	661,60	0-44
CS-138	LLB<6.27E-03	LLD<6.27E-03		1435.86	
	LL0<1,32E-02			1408,01	
EU-154	LLD<7.77E-03	LLD<7.77E-03		105.31	
	LLD<5.01E-03			1099,25	
FE-59	LLD<3.67E-03	LLD<3.67E-03 LLD<1.69E-03		482,20	
HF-181	LLD<1.69E-03	LLD<1.41E-03		279.20	
HG-203	LLD<1.41E-03	LLD<1,44E-03		364,48	
I-131	LLD<1,46E-03 LLD<2,20E-03	LLD<2.20E-03		667.69	
I-132 I-133	LLD<1.64E-03	LLB<1.64E-03		529.69	
I-134	LLD<2,74E-03	LLD<2.74E-03		847,03	
I-135	LLD<7.89E-03	LLD<7.89E-03		1260.41	
K-40	LLD<1,92E-02	LLB<1.92E-02		1460.75	
KR-85	LLD<5.43E-01	LLD<5:43E-01		513,99	
KR-85M	LLD<1.44E-03	LLB<1.44E-03		151.17_	'A A A
KR-87	LLD<3.75E-03	LLD<3.75E-03		402.58	114
KR-89	LLB<6,48E-02	LL0<6.48E-02		220,90	

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ZN-65

ZR-95

LLD<6.72E-03

LUD<2,91E-03

LA-142	LLD<4.07E-03	LLD<4.07E-03	
		LLD<2.05E-03	
MN-34	LLB<2.05E-03 LLB<2.04E-03		^
MN-56		LLD<2.04E-03	R940-5230 DX 6-15-9~
NA-22	LLD<2.76E-03	LLD<2.76E-03	1940-5630
NA-24	LLD<1,91E-03	LL0<1,91E-03	14 1 - E
NH-94	LLD<1.87E-03	LLD<1.87E-03	JXC 6-13-72
NE-95	LLD<1.80E-03	LLD<1.80E-03	
NB-97	LLU<4.08E-03	LLD<4.08E-03	
NF-237	LLB<1.22E-02	LLD<1,22E-02	
NF-238	LLD<8.05E-03	LLB<8.05E-03	
NF-239	LLD<8,21E-03	1.LD<8,21E-03	
PA-233	LLD<3.40E-03	LLD<3.40E-03	
PA-234M	LLD<4.06E-01	LLD<4.06E-01	
PB-210	LLB<2,98E-01	LLD<2,98E-01	
PB-212	LLD<2.40E-03	LLD<2.40E-03	
PB-212A	LLB<2.39E-03	LLD<2.39E-03	
	LLB<4,14E-02	LLD<4,14E-02	
	LLD<3.37E-03	LLD<3.37E-03	
	LLD<3.37E-03	LLD<3.37E-03	
	LLD<6.48E-03	L1.0×6.43E-03	
F0-210	LLD<1.45E+02	LLD<1.45E+02	
	LLD<1.85E+01	LLD<1.85E+01	
PO-216	LL0<9,03E+01	LLU<9.03E+01	
PU-239	LLB<1.56E+01	LLD<1.56E+01	
PU-241	LLB<5.28E+02	LLD<5,26E+02	
	LLB<2.83E-02	LLD<2.83E-02	
RA-226	LLD<2.75E-02	LLB<2.75E-02	
	LLD<1.40E-02	LLD<1.40E-02	
RB-88			
RB-89	LLD<9.79E-03	I.LD<9.79E-03	
RN-220		LLD<1.47E+00	
RU-103	LLB<1.61E-03	LLDS1.61E-03	
RURH103	LL0<3,78E-02	LL0<3,78E-02	
SB-124	LLD<1.92E-03	LLB<1.92E-03	
SB-125	LLB<1.64E-02	LLD<1.64E-02	
SC-46	LLD<1.90E-03	LLD<1,90E-03	
SE-75	LLB<2.01E-03	LLB<2.01E-03	
SN-113	LLB<2.01E-03	LLD<2.01E-03	
SR-85	LED<2.38E-03	LL0<2,38E-03	
	LLD<3.22E-03	LLD<3.22E-03	
SR-91		LLB<3.20E-03	
SR-92			
TA-182	LLD<5.11E-03	LL0<5,11E-03	
TC-99M	LLD<1.14E-03	LLD<1.14E-03	
	LLD<1.22E-03	LLD<1.22E-03	
TE-125M	LLB<3.71E-01	LL0<3,71E-01	
TE-132	LLD<1.24E-03	LLB<1.24E+03	
TH-228	LLD<1,38E-01	LLD<1.38E-01	
TH-234	LLB<2,29E-02	LLU<2,29E-02	
	LLD<2.29E-02	LLD<2.29E-02	
	LLD<8.89E-02	LLD<8.89E-02	
	LLDK2,20E-03	LL0<2.20E-03	
TL-208		LLD<1.93E-03	
U-235	LLD<1.93E-03		
U-235A	LLD<1.93E-03	LLD<1.93E-03	
U-2338	LLB<1,05E-02	LL0<1,0SE-02	
U-237	LLD<5.10E-03	LLD<5.10E-03	
W-187	LLB<6.41E-03	LLIK6.41E-03	
XE-131M	LLD<5.68E-02	LLD<5.68E-02	
XE-133	LLD<4.29E-03	LLD<4.29E-03	
	LLB<1.13E-02	LLD<1.13E-02	
XE-135	LLD<1,21E-03	LLU<1,21E-03	
XE-138	LLD<9.54E-03	LLD<9.54E-03	
		LLD<1.33E-03	
Y-88	LLB<1.33E-03		
	LLD<8,95E-01	LLD<8.95E-01	
Y-91M	LLD<2.43E-03	LLD<2.43E-03	
711-15	LLD24 70E-07	11071 775-07	

LLD<6.72E-03

LL0<2.91E-03

756,73

641,83 834,83 845.76 1274.55

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5.83E-03 +-2.60E-03 5.83E-03 +-2.32E-03

EPAR - RYKKK HEV/DISINTESRATION NAXIMUM FERMISSOBLE ACTIVITY = 1,16E-08 UC/LI

-R 940-5630

TOTAL MEASURED ACTIVITY = 0.835-03 (+-2.625-03) UC/LI 4-5-92 • TOH. BREG. = ****** (+-****) WHC-SD-WM-DP-025

Addendum 14 Rev 0

ERROR QUOTATION AT 1.76 SIGNA LLD CONFIDENCE LEVEL AT 83.0%

ALL DETECTED PEAKS WERE USED IN THE ANALYSIS

GAMMA SPECTRUM ANALYSIS

WHC-SD-WM-DP-025

SOFTWAREAddendum 14 Rev 0 CAMBERRA SPECTRAN-F U2.06

222-S COUNTING ROOM

04-JAM-92 18(16)19

ANALYSIS PARAMETERS

MCA UNIT NUMBER: 1 / ADC UNIT NUMBER: 2:0 DETECTOR NUMBER: 2 GEOMETRY NUMBER: 42

SPECTRUM SIZE: 4096 CHANNELS

ORDER OF SHOOTHING FUNCTION:

NUMBER OF BACKGROUND CHANNELS: A ON EACH SIDE OF FEAK

PEAK CONFIDENCE FACTOR: 85,0%

IDENTIFICATION ENERGY WINDOW: 4- 1,50 KEV ERROR QUOTATION: 1,98 SIGNA UNCERTAINTY

ENVIRONMENTAL BACKGROUND SUBTRACTED THE CAUCULATION PERFORMED MEASURED ENERGY DIFFERENCES LISTED "MULTIPLET ANALYSIS PERFORMED

🤭 SPECTRAL DATA READ DIRECTLY FROM MULTICHANNEL ANALYZER ANO:

MANALYZED BY:

MPLE DESCRIPTION: R945-5730 _LOMETRY DESCRIPTION: 22ML LIG

/ CONVERSION FACTOR: 4.9505F-03 SAMPLE SIZE: 1.0000E-03 LI

STANDARD SIZE: 1.0000E+00 EA ANALYSIS LIBRARY FILE: ANLOGO

COLLECT STARTED ON 4-JAN-92 AT 12:26:07

COLLECT LIVE TIME:

3000, SECONDS

REAL TIME:

3002. SECONDS

DEAD TIME:

0.07 %

DECAYED TO

O. DAYS: 0.0000 HOURS BEFORE THE START OF COLLECT

ENERGY CALIBRATION PERFORMED 17-MAR-89 EFFICIENCY CALIBRATION PERFORMED 16-MAY-91

Lains Cochrine weem

Addendum 14 Rev 0

ΩĶ	CENTROID CHANNEL				NET AREA COUNTS		MUCLIBEE
			1.64	93.	9582.		06-137
	2920.72		2.43	12,	189.	1578 1578	K-40
28		1440.85			106,	378	

ERROR QUOTATION AT 1.96 SIGMA PEAK CONFIDENCE LEVEL AT 85.0%

B - ENVIRONMENTAL BACKGROUND PEAK

BACKGROUND SUBTRACTION PERFORMED USING FILE BK0012

BACKGROUND DESCRIPTION: BKG

→ BACKGROUND COLLECT STARTED ON 30-AUG-88 AT 16:46:00

BACKGROUND LIVE TIME: 60000, SECONDS

SAMPLE: R945-5730

TATA COLLECTED ON 4-JAN-52 AT 12:26:07

TOAYED TO 0. DAYS/ 0.0000 HOURS REFURE THE START OF EQLECT.

RADIONUCLIDE ANALYSIS REPORT

NACTIDE	ACTIVI	ТҮ СОНСЕМ	TRATION IN U		EMEROY CO	
	MEASURED	ERROR	CORRECTED	ERROR	EXPECT	DIFF
AC-228	LLD<3.65E+01		LLD<3.65E+01		911.07	
AC-228A	LLD<3.65E+01		LLD<3.63E+01		911.10	
AC-2288	LLUK9.31E+01		LLU<9.31E+01		338,10	
	LLD<1.97E+01		LLD<1.97E+0%		433.94	
	LLD<1.46E+02		LLD<1,46E+02		657.76	
	LLD<9.38E+01		LLD<9.38E+01		G9.54	
	LLD<2.50E+01		LLD<2.50E+01		74.67	
AM-243A	LLD<2.50E+01		LLD<2.50E+01		74+67	
	LLB<2.71E+03		LLD<2.71E+03		63.10	
	LLD<1.29E+01		LLD<1.29E+01		43,10 1293,64	
AU-198	LLD<1.59E+01		LLD<1.59E+01		411.80	
	LLB<2.02E+01.				411.80 356.02	
	LLD<5.07E+01		LLD<5.07E+01		165.85	Щ
'∂BA-140	LLD<5.98E+01		LLD<5.78E+01		537,27	U)
EA-141	LLD<4.69E+01		LLD<4.64E+01		190.23	SCHOOL !
BE-7	LLD<4,60E+01 LLD<1.72E+02		LLD<1.72E+02		477.59	
BI-207	LLD<1.29E+01 LLD<7.47E+01	:	LLD<1.29E+01		569.70	· See 1
T-212	LLD<7.47E+01		LLD<7.47E401		727.27	8
-214	LLB<3.33E+01		LLD<3.35E+01		609,32	Control of the Contro
			LLD<3.35E+01		609,32	Samon
**BI-2148	LLD<8.27%+01		LL0<8.27E+01	•	609,32 1120,28	
BI-2140	LLD<7.91E+01		LLD<7.91E+01		1764.51	¥6
CD-109	LLD<2.76E+02		LLB<2.96E+02		88,03	Carrier Carrie
CE-139	LLD<1.15%+01		LLU<1,15E+01		165,85	
	LLD<1.67E+01		LLD<1.67E+01		145.44	
	LLD<1.33E+02		LLD<1.33E+02		133.51	COPY
	LLD<8,02E+00		LL0<8+02E+00		346,76	
	LLIK8.86E+00		LLD<8.86E+00		122.06	70
	LLIK9.50E+00		LLD<9.50E+00		810.75	
	LLB<1,078+01		LL0<1.07E+01		1332,50	•
	LLD<1.20E+02		LLD<1.20E+02		320.09	
	LLD<1.13E+01		LLD<1.13E+01		795.84	
	LLDK9,72E+00		LLDK9.78E+00		818.51	
	.4.23E+03	++1,22E+01		+-1,20E+02		- O . A F
08-138	LLD<1.93E+01		LLD<1.93E+01		1435,88	
EU-1U2	LLUK3,83E+01		LLDK3 -86E+01		1400.01	
EU-154	LLB<3.19E+01		LLD<3.19E+01		1274,40	
	LLDK4.21E+01		LLD<4.21E+01		105.51	
	LLD<2.09E+01		LL0<2.09E+01		1099,25	
	LLD:01.93E+01		LLD<1.93E+01		482.20	
	LLD<1.23E+01		LLD<1.23E+01		279.20	
	LLD<1,39E+01		LLD<1.59E+01		354,48	
	LLB<3.65E+01 LLB<1.51E+01		LLD<3.6SE+03		667.69	
	LL0<1,37E+01		LLD<1.5%E+01 LLD<1.18E+01		329,69 847,03	
	LLD<4.99E+01		LLDK4.99E+01		1260.41	
	LLD<5.48E+01		LLD<5,68E+01		1460.75	
	LLB<3,78E+03		LLD<3,98E+03		513,99	
	LLD<1.08E+01		LLD<1.08E+01		151.17	
	LLD<3.69E+01		LLDK3.69E+01		102.58	119
	LLD<5,188+01		LLD<5.18E+02		200.50	
EXIX No. 2	in a sum and in that in the following the first and in		Language with the distribution of Mills.		· · · · · · · · · · · · · · · · · · ·	

mR-La	LLDR8/1/8-00	LLp.3.1/a+00	- 27144-5730
51NM	LLD49.05E+00	FFDKS:02E#00	를 끊 수 있까 수
NA-22	LLBK1.13E+01	LLD-(1-13E+01)	- R945-5730 1271.EE
NA-24	LLD<1.118+01	LL001.115f01	1 2 0 € 0 € 0
115-94	LLDK8.49E+00		WHC-SD-WM-DP-025 Tobleat Addendum 14 Rev 0 7:50.00
7-95	LLDK7.135+00	LLD47,13E+00	Addendum 14 Rev 0 7:5.75
	LLD41,538+02	LEBM1.60H+02	
	LLDK8.87E+01	LLDKS.SME+01	
NF-238	LLDKG.00E+01	LLB<3.00E+01	984.48
	LLBK7,77E+01	LLD07.77E+01	277.60
PA-233	LLD<3.00E+01	LLD<3.00E+01	311,98
	LLD<1.705+03	LLB<1.90E+03	1001.03
	LLD42,948703	LLDK2;44E+03 LLDK2;26E+01	95.70 288,00
	LLD<2.25E+01	LLD<2.23E+01	##7:00 239:00
	LLB<3,56E+02	LLD<3.56E+02	300:10
	LLD<3.10E+01	LLD<3.10E+01	351,92
	LLD<3,10E+01	LLD<3.10E+03	351,80
	LLDK6,07E+01	LLDK6.07E+01	220/21
	LLD<7.65E+05	LLD<7.60E+05	804.00
F0-214	LLD<9.16E+04	LLD<9:16E+04	799.70
PO-216	LLD<5,25E+05	LLU<5,20E+05	804.90
FU-239	LLD<1.28E+03	LLB<1.28E+05	129,36
	LLB<4.25E+06	LLD<4.25E+06	146.07
	FFDK5:22E+05	LLN<2.55E+02	240.99
RA-226	LLD<2.42E+02	LLIK2.42E+02	188.10
	LLIK8.33E+01	LLIKS.38E+01	1834.00
RB-89		LUD<3.8SE+01	1081.88
RN-220	LLDK1.25E+04	LLDK1,23E+04	୍ ପ୍ୟବ୍ୟଟ୍ୟ
RU-103	LLD<1.60E+01	LLB<1.60E+01	197.08
FURH103	LLB<2.63E+02 LLB<1.12E+01	LLD<2,63E+02 LLD<1,12E+01	621.80 621.80
	LLD<1.27E+02	ULD<1.27E+02	
	LLD<1.138+01	LLU<1,27E+02	174,33 1120,43
	LLD<1.87E+01	LEB<1.87E+01	11 αυνηυ Ζόθνδώ
ี้ 3พ-113	LLD<2.15E+01	LLB<2.15E+01	391.67
3R-85	LLDW1.748+01	LLDK1.74E+01	513.99
19-32	LLDK2.43E+01	LLB<2,43E+01	084880
	LLDK9.80E+00	LLD<9.80E+00	1383.74
	LLD43.88E+01	LLD<3.88%÷01	1121,30
	LLD-(8,90E+00	LLBK8.90E+00	140.51
	LLD<1.03E+01	LLD<1.03E+01	159.00
	LLDK2.94E+03	LLD<2.99E+03	109,27
	LLD<1.11E+01	LLD<1,11E+01	228,16
	LLD<1,01E+03 LLD<1,75E+02	LLD<1.01E+03	64.37
	LLD<1.75E+02	LLDK1:75H+02 LLDK1:75E+02	92.50 92.50
	LLD<6.81E+02	LLD<6.81E+02	ాము.⊒౪ ఉత్నమాళ
	LLD<1,46E+01	LEB<1.46E+01	50
	LLD<1.74E+01	LED<1.74E+01	185.T1
	LLDK1.74E+01	LLD<1.74E+01	105.71
	LLDK7,72E+01	LLDK7.70E+01	193.78
U-237	LLDW4.33E+01	LLD44,33E+01	208,00
W-187	LLD<3.24E+01	LLD<3,24E+0i	685.79
	LLB<4.81E+02	LLD<4.81E+02	133,78
	LLD<3.52E+01	LLB<3.52E+01	81.00
	LLD<9.78E+01	LLD<9.78E+01	233.21
	LLB<1.15E+01	LL0<1,10E+01	247,78
	LLD<8.78E+01	LLD<8.78E+01	258,41
	LLD<7.93E+00	LLD<7.93E+00	1 6 36.06
	LLB<3,72E+03	LLD<3,72E+03	1204.70
	ELD<1.84E+01	LLD<1.84E+01	555.60
	LLDK3.04E+01	LLDK3.04E+01	1115.55
4.パープリ	LLD<1.37E+01	LL0<1.37E+01	796 75

> WHC-SD-WM-DP-025 Addendum 14 Rev 0

ERROR QUOTATION AT 1.96 SIGMA LLD CONFIDENCE LEVEL AT 80.0%

ALL DETECTED PRAKS WERE USED IN THE ANALYSIS

CAMBERRA SPECTRAM-F 92:06 SOFTWARE

222-S COUNTING ROOM

04-JAN-92 14140103

ANALYSIS PARAMETERS

MCA UNIT NUMBER: 1 / ADC UNIT NUMBER: 2:0
DETECTOR NUMBER: 2 / GEOMETRY NUMBER: 42

SPECTRUM SIZE: 4096 CHANNELS

ORDER OF SMOOTHING FUNCTION: 5

NUMBER OF BACKGROUND CHANNELS: 4 ON EACH SIDE OF PEAK

PEAR COMFIDENCE FACTOR: 85:0%

IDENTIFICATION ENERGY WINDOW: +- 1.30 KLV ERROR QUOTATION: 1.96 SIGNA UNCERTAINTY

ENVIRONMENTAL BACKGROUND SUBTRACTED LLD CALCULATION PERFORMED HEASURED ENERGY DIFFERENCES LISTED MULTIPLET ANALYSIS PERFORMED

SPECTRAL DATA READ DIRECTLY FROM MULTICHARMEL ANALYZER ARO:

ANALYZED BY: 52820

SAMPLE DESCRIPTION: R946-9530 GEOMETRY DESCRIPTION: 22ML LIG SAMPLE SIZE: 1.0000E-03 LI

/ COMMERSION FACTOR: 1.0000E-01

STANDARD SIZE: 1.0000E+00 EA ANALYSIS LIBRARY FILE: ANLOOO

COLLECT STARTED ON 4-JAM-92 AT 13:51:52

COLLECT LIVE TIME:

3000. SECONDS

REAL TIME:

3003. SECONDS

DEAD TIME:

.0.10 %

DECAYED TO

0. DAYS: 0.0000 HOURS BEFORE THE START OF COLLECT

ENERGY CALIBRATION PERFORMED 17-MAR-87 EFFICIENCY CALIBRATION PERFORMED 16-MAY-91

BEST AVAILABLE COPY

WHC-SD-WM-DP-025 Addendum 14 Rev 0

222-S COUNTING ROOM

04-JAN-92 14110105

SAMPLE: R946-5530

DATA COLLECTED ON 4-JAN-92 AT 13:51:52

DECAYED TO 0. DAYS: 0.0000 HOURS BEFORE THE START OF COLLECT.

RADIONUCLIDE ANALYSIS REPORT

NUCLIDE	ACTIV	ITY CONCENTRA	TION EN OUT DECAY	CAZLI	ENERGY CO	
	MEASURED	ERROR	CORRECTED	ERROR	EXPECT	DIFF
AC-228	LLB<4.46E+00	L. L. I	0<4.45E+00		911.07 911.10 338.40	
AC-228A	LLD<4.46E+00	L.L.I	1<4.46E+00		911.10	
	LLB<5.55E+00)<5.55E+00		378 40	
	LLD<1.03E+00				433.94	
	LLD<4.55E+00				857.75	
			0<5.28E+00		par page 1	
AM-243	LLD<5.28E+00 LLD<1.37E+00	LLI	0<1.32E+00		74.67	
5M=2135	LLD<1.37E+00	111			74.67	
	LLE<1,43E+02				43,10 1293,64 411,80 356,02	
AD-41	LLD<8.42E-01	1 1 7	K8.42E-01		1293.64	
HR-100	110/01/126-01	111	K8.71E-01		211.87	
DA-133	LEB<8.71E-01 LEB<1.21E+00	111	0<1,21E+00		358.00	
	LLD<2.78E+00				135.85	
	LLD<3.59E+00				537.27	
RA-140	ELING ADDION	L L L	H2.49E+00		4 70 41 40 50	
DH-141	LLB<2.49E+00	L L J			190.25 177.59	
be-/	LLD<8.65E+00	L. L. I	148,45E+00		569,70	
	LLD<9.24E-01		H(9,24E-01			
	LLD<8,12E+00				A LA A A A A A A A A A A A A A A A A A	
BI-213	LLD<6.04E+00	LLI	148.03E+00		609.32	
BI-214A	LLD<5.04E+00 LLD<9.18E+00	LLI	K6.01E+00		609.82 1120.28	
BI-2148	LLB<9,18E+00	LLi	149.18E+00			
	LLD<4.47E+00				1764.51	
CI(-109	LLD<1.75E+01	LLI	K1.75E+01		88.03 26.051	
CE-139	LLD<6.30E-01	L. L. J	0<6.30E+01			
DE-141	LLD<9.76E-01 LLD<7.66E+00	Ł L. I			145,44	
CEFR144	LLIK7.66E+00	LLI				
	LLD<9,60E-01		N<9.50E=01		846.7ిన	
	LLD<5.05E-01				122.05	
00-58	LLIK9.53E-01	LLI	<9.53E-01		810.75	
00-40	5.98E+01	+-3.04E+00	3.98E+01	4-3:04E+00	1332,50	ాళి,చచ
					11/3/24	-0.25
CR-51	LLD<3.89E+00	LLI	K3.89E+00		320.09	
CS-134	5.91E+01	+-3.19E+00	5.91E+0.0	4-3,196400		
					609.70	-0.12
	LLD<1.08E+00	LLI	K1.08E+00		313.51	
08-137	89E+01	1-3.21E+00	7.89E+01	4-3.21E400	001:00	-0.50
CS-138	LLD<7.61E-01	L.L.)	147,61E-01		1435,86	
EU-152	LLIM 3.29E+00	F F I	CV3.5525ETAO		1.100 t A.T	
	LLD<1.39E+00		K1.89E+00		1274,45	
	LLD<2,45E+00		142,458+00		103,31	
FE-59	LLD<2.38E+00		K2,38E+00		1099,20	
HF-181	LLIK1.11E+00		K1.11E+00		482,20	
HG-203	LLIK7,43E-01		047.43E-01		279.20	
I-131	LLD<9.41E-01		K9.41E-01		364,48	
I - 132	LLD<1.40E+00		1<1.40E+00		00/10/	
I-133	LLU<9,80E-01		K9.80E-01		539,69	
I-134	LLD<1.48E+00		<1.48E+00		847.03	
I-135	LLB<2.40E+00		K2,40E+00		1260,41	
K-40	LLD<1,09E+01		0<1,09E+01		1480,75	400
KR-85	LLD<2.16E+02		142.16E+02		513,99	123
KR-85M	LLD<3.10E-01		K6.10E-01		151,17	
		1 1			/ 13 - 5	

BEST AVAILABLE CUAN MHC-SD-WM-DP-025 Addendum 14 Rev 0

11789	LLD [3.01E+01	LED (3.01E+01	320,50
LA-140	LLB<4.79E-01	LLD/4.79E-01	1396,20
LA-142	LLEG2,138+00	LLING2,13E+00 P QUILLES	80 891/83
MN-54	LLD<9.88E-01	LLD(9,88E-0) R 946-55	
62-MM	LLD<1.08E+00	LLB<1.08E+00 LLB<5.70E+01 344-15-92	846.76
NA-22	LLD-3:70E-01		
MA-24	LLD<9,55E-01	LLD49.55E-01	1348.40
NB-94	LLD<9,41E-01 LLD<9,2SE-01	LED09.41E-01 LLD09.2SE-01	702.33 765.76
NB-95 NB-97	LLB<5.15E+00	LLD<5.13E+00	6E7.92
NF-237	LLD<4.97E+00	LLD<4.97E+00	88,00
NF-238	LLD<1.50E+00	LLD<1.60E+00	934,45
NF-239	LLD<4.48E+00	LLD<4.48E±00	277.60
FA-233	LLIK1.72E+00	LLD<1.72E+00	311.78
	LLD<1.96E+02	LLD<1.93E+02 LLD<1.40E+02	1001,03
	LLD<1.40E+02 LLD<1.36E+00		239.00
	LEB<1.35E+00	LLD<1.35E+00	239,00
	LLD<1.98E+01	LLD01.98E+01	300.10
	LLB<1.86E+00		351.92
	LLD<1.86E+00		351.92
	LLD<3.51E+00	LLD<3.51E+00	275.21
F0-210	LLD<9.15E+04	LLD<9.13E±04 LLD<3.90E±04	804.00 799.70
PO-214 PO-216	LL0<3,90E+04 LLD<7.71E+04	LLD<7.71E+04	804.90
FU-239	LLD<7.28E+03	LLD<7.23E+03	129.30
FU-241	LLD<2.278+05	1.LD<2.27E+05	148,57
RA-224	LLD<1.44E+01	LLD<1.44E+01	240199
RA-226	LLD<1.35E+01	LLD<1.35E+01	186.10
RB-88	LLD:(4,148+00	LLD<4.14E+00	1836,00
RB-89	LLD<5.54E+00 LLD<8.71E+02	LLD<5.54E+00 LLD<8.74E+02	1031.88
RN-220 RU-103	LLDK8.87E-01	LL 048 87E+01	497.08
RURH106		LLD<1.83E+01	621.80
SB-124	LLB<1.31E+00	LLD<1.31E+00	802.72
SB-125	LLB<7.26E+00	LLD<7,24E+00	176/33
SC-43	LLD<1.38E+00	LLD<1.38E+00	176,33 1120,45
SE-75	LLD<1.03E+00	CED-1-00ETOO	204+00
SN-113 SR-85	LLD<1,23E+00 LLD<9,50E-01	LLD<1.23E+00 LLD<9.50E-01	391,67
SR-91	LLD<1.72E+00	LLD<1.72E+00	513.99 553.60
	LLD<8.95E-01	LLD<8.95E-01	1383.94
	LLD<3.63E+00	LLD<3.43E+00	1121.30
	LLB<4.99E-01	LLIK4.99E-01	140.51
	LLD<5.81E-01	LLD<5.81E=01 LLD<1.83E+02	159,00 109,27
TE-133	LLD<1.63E+02 LLD<6.33E+01	LLDG3.35E-01	1 228,13
	LLB<5.93E+01	LL10(5,96E+01	89.37
TH-234		LLD(9.53E+00	92.50
TH-234A	LLING9.58E+00	LLD<9.53£400	92730
	LLD<3,748+01	LL003,74E+01	63,30
TL-208	LLD<1.15E+00	LLD<1.15E+00	583.14
U-235 U-235A	LLD<9.59E-01 LLD<9.59E-01	LLIM(9.59E-01 ULIM(9.59E-01	185.71 185.71
U-235R	LLD<4.38E+00	LLD(4.38E+00	143.76
U-237	LLD(2.44E+00	LLD/2.44E+00	208,00
W-137	LLE<3.26E+00	LLD<3.28E+00	535,74
	LLB<2.72E+01	LLD<2.73E+01	133.78
	LLD<2,01E+00	LLD<2.01E+00	81.00
	LLD<5.57E+00	LLD<5.57E+00	233,21 249,79
XE-135 XE-138	LLDK6.46E-01 LLDK5.20E+00	LLD<6.46E+01 LLD<5.20E+00	258.41
Y-88	LLD<3,92E-01	LLD<3.92E-01	1335,06
Y-91	LLB<2.74E+02	LLD<2.74E+02	1204.90
Y-91M	LLB<1.30E+00	LLD<1.30E+00	555.60
-		•	

124

WHC-SD-WM-DP-025 Addendum 14 Rev 0

IR-95	LLB<1.74E+00	LLD<1.74E+00	758,73
ZR-97	LL5<9,65E-01	LLD49.68E-01	743.33

TOTAL 1,98E+02 +-5,45E+00 1,98E+02 +-5,45E400

STANDARD DEVIATION - 0.10

EBAR - ***** MEV/DISINTEGRATION R 946-5530 MAXIMUM PERMISSABLE ACTIVITY = 1.31E-09 UC/LI TOTAL MEASURED ACTIVITY = 1.98E+02 (+-5.49E+00) UC/LI % TECH. SPEC. = ****** (+-****)

ERROR QUOTATION AT 1.96 STGMA LLD CONFIDENCE LEVEL AT 85.0%

\$

PEAKS NOT USED IN ANALYSIS

CENTROID CHANNEL	ENERGY KEV	NET AREA	ERROR %	GAMMAS/SEC
1126.30	562.78	229.	26.3	1,35E+01
1138.50	568.88	499.	19.0	2,98E+01
1603.59	801.39	206.	12.1	1,69E+01
12918.36	.1458.72	33.	33.6	4,39E+00

PEAKS ELIMINATED BY BACKGROUND SUBTRACTION

CENTROID	ENERGY	NET AREA	ERROR	GAMMAS/SEC
CHANNEL	KEV	COUNTS	%	
2921.78	1460.43	118,	19.2	1.535+01

· ACID DIGESTION ANALYSIS RESULTS

ACID DIGESTION RESULTS

Tank: Sample No.: Customer ID:

103AP R945 3AP891-10

	Check Standard		Blank		Sample	•	Duplicate Sample	Spike of Sample	Cruck Standard	
Lab ID:	R939		R940		R945		NA	NA NA	no-us	
Acid Digestion (01-07-92)	Complete		Complete		Complete		NA .	NA .	Complete	
ICP										
Aluminum	116	%	9.97E+1	ug/L	5.50E+5	ug/L	NA	NA NA	133	%
Barium	97.8	%	<1.30E+1	ug/L	<6.50E+1	ug/L	NA	NA NA	102	%
Cadmium	96.1	%	<4.0 E+0	ug/L	1.80E+2	ug/L	NA	NA NA	93	6/ ₀
Chromium	101.3	%	<8.0 E+0	ug/L	6.40E+3	ug/L	NA	NA	101	%
Iron	103.5	%	<8.7 E+1	ug/L	<4.35E+2	ug/L	NA	NA	103	C/0
Lead ·	102.6	%	<8.0 E+1	ug/L	<4.0 E+2	ug/L	NA	NA NA	\$5.5	%_
Magnesium	102.8	%	<5.10E+1	ug/L	<2.55E+2	ug/L	NA	NA	101	c'\
Manganese	97.8	%	<3.0 E+0	ug/L	2.30E+1	ug/L	NA	NA	\$6.5	c,′
Silver	37.2	%	<8.0 E+0	ug/L	<4.0 E+1	ug/L	NA	NA .	113	ς _/ ν
Sodiem	148.8	%	1.12E+3	ug/L	1.20E+7	ug/L	NA	NA	180	%
Zec	97.8	1	<4.0 E+0	ug/L	3.09E+2	ug/L	NA	NA NA	Sú	%

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:
R945	3AP891-10
Analysis:	Sample Prep:
ACID DIGESTION	ACID DIGESTION

Instrument:	Procedure/Rev:		
METTLER BAL. SNF04495	LA-505-158/A-2		
Technologist:	Date:		
L. MORRISON	1-07-92		
Starting Time:	Temperature:		
NA	NA .		
Ending Time:	Chemist:		
NA	L. OTTMAR		

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	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-8505	11		
2	REAGENT BLANK	R940-8605	12 .		
3	SAMPLE 3AP891-10	R945-8705	13		
4	FINAL LMCS CHECK STD	R946-8505	14		
5			15		
6			16		1
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS CHECK STD	ICP1-1B48AA/50 mL	ICP2-2B48AB/50 ml	ICP3-3B48AB/50 ml	N/A

A-6000-881 (03/92)

ACID DIGESTICH AMALYSIS WHC-SD-WM-DP-025 Addendum 14 Rev 0

And The state of t	Designation Separate Senders Require Lines Charge Code Annual Lines Charge Code Ch	
TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN	1400-010 FM-402-128 UND 1115-40	()
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1-7-72 1/(1/2)	1-7-92 1/8/92 The section in	
10.75	AND THE PARTY OF T	- - -
7" 945 8705 1705AR 91 2-14-91 176177 25"	12-10-VI TOTAL POOL 10-1001 10-10-VI TOTAL P	emper p
	Determination United Secretary Regulation Co. In the Co. In Co. I	
Contraction of the designation of the second		
10-12 50-1	Sample Size Continue 10 11 11 10 Properties and 50 mg.	
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WHC-SD-WM-DP-025 Addendum 14 Rev 0

WESTINGHOUSE HANFORD COMPANY 222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No.:	Customer ID:	
R945	3AP891-10	
Analysis:	Sample Prep:	
INDUCTIVELY COUPLED PLASMA	ACID DIGESTION	

Instrument:	Procedure/Rev:
WB39939	LA-505-151/B-0
Technologist:	Date:
T. FRAZIER	1-23-92
Starting Time:	Temperature:
11:20	NA NA
Ending Time:	Chemist:
14:26	L. OTTMAR

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	R939-8550	11		
2	REAGENT BLANK	R940-8650	12		:
3	SAMPLE 3AP89110	R945-8750	13		
4	FINAL LMCS CHECK STD	R946-8550	14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard	Primary Book No.	Second Book No.	Third Book No. and	Final Vol. of
Type	and Aliquot Vol.	and Aliquot Vol.	Aliquot Vol.	Standard
LMCS CHECK STD	ICP1-1B48AA/10 mL	ICP2-2B48AB/10 mL	ICP3-3B48AB/10 mL	NA
· · · · · · · · · · · · · · · · · · ·			,	
· · · · · · · · · · · · · · · · · · ·				

ICP AMALYSIS - ACID DIGESTION WHC-SD-WM-DP-025 Addendum 14 Rev 0

	DIGESTED LINES TILL	UNDICESTED :34146
THE PRO TO THE PROPERTY OF THE	Al 1.160 25 0 5.80 1160 79 200	TAYEAD
	ZN 1.955 X 3 9.775 97.759, Mar.	Ex 4.91pm 98.27.
CP 14-1401-151 September 151 COVERT Compa From Paring	Fe 1.03575 = 5.175 101.59%	Fe 4.91 pm 98.27. Cr 5.06 ppm 101.27.
more Suze Customer ID 5 I U	Cr 1,013 x 5 x 5,005 101.39 a	Ba 9.95 mm 99.57.
2== 04 12 50==	Ba. 1.955=5=9.775 9275-70	The Stoppen 100,0%
MANA CARCESTORS FRANCIS LOS SELD CD PB 14 PRA (3 3 4 SHA 3 3 3 MARA)	mg 1.028 x 5. 14 102,570	NS 5.84pp 98.476
22 ZID	Na 2,975×5=14,875 143,77.	Col 9.59pm 95,970
FE	Ag .372 x Se 1.86 37, 29,	
THE STD COV OR LHCS MG	Pb 1.026252 5.13 102,69.	Ma 4.85pp 97,000
11/10	Col 1.92125= 9,625 96.0590	Ag 5.13ppm 102.69. Pb 4.85ppm 97.00,
A NA		AI 4.75ppm 95,000 Rec.
Mrst - 1 Analysi - 2 Analysi - 3 Analysi - 4 Analysi - 5	MA .978 25 4.99 97.89.	MI 1.13 pgm 75,04/6 Rec.
7768 82768	200	
The Court of them of 17.	8331-8220	
Alex of Carlo Carl		•
1-23-92 1 23/92 Three titres		
64-6840-0([]A-10-63]		
Serial NO Bampie Point Date Time Italian Practity	AI 9.97 EI 49/8	2940.8650
Serial No. NoUSEO Series Post Date 12-15-71 Time Series Printy 12-15-71 Total Series Printy 12-15-71 Printy Print	20 <4.0 49/2	•
Determination Mainout Standard Plant I Page I Date Grape Grape Retains	211 41.0 43/12	
	Fe <8.70E1 49/1	
Cuscos 10	Cr <8.0 45/2	
S C ms. Persona. Carcustings, Heyelfs 17-HULHI L. L. HIHK	-	
AG MG	Be <1.70E1 49/1	
AL MN	Mg < 5.10E1 43/8	•
BA NA	Na lize3 mg/	
ED PB	Ag <8,0 43/1	
CR ZN Over	Pb <8-0E/ -3/P	
67768 82768 ANDITO ANDITO ANDITO ANDITO ANDITO ANDITO ANDITO AND ANDITO AND AND AND AND AND AND AND AND AND AND	Cd < 4.0 45/2	
1 mi 1 17 1 mi mi	Ma <3,0 47/1	
Trees the Kallyines Ofman	,	
Care Chipperson Las Unidage		
1-23-92 1/23/92 Jun / Jun		
64 (SALLOP) (R. 49 - 63)		
Series No. Party 10 Sample Point Daily 2-16-91 Tyris Issued Pricery 10 10-12	AI (1.10 ES) 5.50 E5 us 11	R 945-8750
	Zn (6.19E1) x5) = 3.09 E2 48/2	1. 113 8.30
State State Senderal 21 Sales have States States States	Fe((8.70E1)x5) = <4.35E2.45/2	
Sample Buse	Cr (1.28E3)5) = 6.40E3 m/l	
10 m 13 50 m 2 2 2 (M Ns)	Ba (<1.30E1)5)= <4.50E1 4/2	
AG /116	mg (<5.10E1)(5) <2.55 EQ ug/2	
A1	N (1.00=\$)(5)(6)=1.20E7 us/2	
AL NA	A Company of the Comp	
MA PD	Ay (<8.0)(5) = <4.021 mg/2	
CD 2N	Pb (<8.0E))5)= <4.0E2 45/2	
FF. Over	Cd (3.60EUS)= 1.80E2us/1	
Analysi - 1 Analysi - 2 Analysi - 5 Analysi - 5	Mn (4.615)= 2.30 = 1 -5/2	
67768 82768	111 mm 1 - 0130 4) 45/2	
1 " DS 6 Paris of Attack		
Calle China general Las Une 14	•	
1/-25-9211/23/921		
11 - 60 pt 1 pt 10 - 601		

ICP AMALYSIS - ACID-DIGESTION WHC-SD-WM-DP-025 Addendum 14 Rev 0

	5 O 1 O TAIR	10-16-91	Time Asset	Proces
ICP	10-505-151 202	: RETOVERY	STD	D
Homers Calculations of 1ST STD Did 1848AA, KOVEAR, J	nested STD			
2nd STD CCV	OR LMCS	0	ver	
67768 1 HII	82768 may	rus Andrysi - 4	Anerysi	
1-23-92		of war	Geren f	6

practed Counts Statistics 11:20 AM January 23, 1992

WHC-SD-WM-DP-025 Addendum 14 Rev 0

sk hade : ALL GIA

nole Weight: 1.0000 Solution Volume: 1.00

mizorations: 3 Off-Peak Integrations: 1

ilyta un	annel		S.D. Xpulses	tk.S.D. Ipulses
	1	-0.033	0.005	
	2	245.908	1.532	
	3	-0.080	0.023	
	5	-0.019	0.005	
	6	1.535	0.010	
	7	71.196	0.235	
	8	0.069	0.007	
	9	0.059	0.011	
	10	0.583	0.051	
	11	110.588	0.733	
	12	20.978	0.107	
	14	96.849	0.439	
	15	41.277	0.237	
ronges	16	20.475	0.162	
1	17	-0.005	0.001	
~~~~	18	-0.069	0.003	
	19	15.029	0.142	
· -	20	58.989	0.366	
	21	12.109	0.079	
څر	22	0.332	0.076	
Th. etc.	24	0.073	0.005	
14.	25	-0.362	0.003	
	26	163.222	1.066	
	27	0.181	0.004	
200	28	0.128	0.009	
	29	22.844	0.157	
Q1	30	-0,000	0.011	
	31	15.044	0.047	
-	32	0.006	0.007	
200	23	0.410	0.002	
•	34	1.082	0.009	
~	35	0.015	0.013	
	36	-0.114	0.004	
Í	37	228.240	1.784	
	38	24.324	0.180	
	37	0.838 48.352	0.012 0.318	
	40	98.332 0.884	0.019	
b	42 43	0.018	0.003	
	9.5 44	-0.006	0.001	
2 1	45	-0.072	0.005	
1	93	-0.0/2	0.003	

17939-1946 1/23/92

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST CHEMIST THAT COMPLETED THE ANALYSIS RUN ON PAGES 133 TO 194.

dentity 1: SSI1 STD 1348AC Identity 2: Direct 11:20 AM January 23, 1972

ask name : ALL SIM

Pample Weight: 1,0000 Solution Volume: 1,00 'n-Pe' 'tegrations: 3 Off-Peak Integrations: 1

> Sn Si Zr Sr Ri Ta Hg

eta .). 3.5.5.	(378) -31.713 2.350 6.724	(57)) 1)77,153 31,663 3,373	(555) -52,323 23,224 33,314	(7,3) -13.733 2.373 13.033	(273) -21.737 339.379 3132.092	5193.279 -	4,771	(795) -130.034 4.557 2.528	MHC-SD-MM-DP-025 Addendum 14 Ray D
ean .D. R.S.D.	3 (ppb) 778.140 72.376 9.301	2n (pph) 9023.021 65.450 0.886		Li (20b) 9861.106 44.668 0.453	Co (ppb) 9746.507 56.064 0.575	4i (995) 4875,539 38,542 0,737	La (apb) -3.433 4.075 75.007	23 (225) -0.393 0.188 27.962	
ean .D. R.S.D.			3064.331 33.072	-19.614	25.637 13.362	Sa (apb) -1132.575 10.317 0.911	Pa (ppb) 7953.229 65.012 0.653	f (ppb) 1133.709 28.030 2.368	
ean .D. B.,S.,D.	\$ (pph) 40.244 10.149 25.220	Mq (ppb) 5000.962 34.336 0.687	-11.410 14.198	Ha (ppb) 9843.647 29.333 0.298	-0.211 2.289	Se (ppb) 216.929 11.437 5.272	Ag (ppb) 374,408 2,848 0,761	Pb (ppb) 35.617 24.049 67.522	
edn'	Ti (ppb) -5.556 0.513 9.234	Ed (ppb) 9592.813 74.968 0.782	4839.135 35.788	% {ppb} 5265.494 75.465 1.433	4851.103 31.954	4835.758	V {ppb} 0.234 2.234 954.825	3e (apb) 0.311 0.187 57.996	
1980	11 (ppb) -78.995 31.710								

orrected Counts Statistics 11:22 AM January 23, 1992

40.142

ask-mane : ALL SIM

Tample Weight: 1.0000 Solution Volume: 1.00 m-Peak Integrations: 3 Off-Peak Integrations: 1

nalyte	Channel	Mean Koulses	S.D. Ipalses	ZR.S.D. Kpulses
.1	1	-0.140	0.008	
if.	2	0.014	0.011	
i	3	4.796	0.025	
i a	5	-0.039	0.034	
įΦ	Ь	1.553	0.014	•
รัก เกีย	7	-0.080	0.018	
1	8	0.014	0.006	
41.	9	1.176	0.037	
<del>2</del>	10	-0.001	0.007	
la	11	0.111	0.013	
. 1	12	0.095	0.003	
_i	14	-0.015	0.001	
0.	15	-0.015	0.011	

	15	-2,971	0.010	WHC-SD-WM-DP-025
	17	1.251	2.295	Addendum 14 Rev 0
	13	73.363	0.173	Addendan 14 May 4
	17	0.005	0.013	
	20	0.528	0.003	
	21	-0.305	0.007	
	22	11.572	0.103	
	24	1.322	0.012	
:	25	1.763	0.007	
	26	-0.419	0.014	
	27	0.018	0.003	
	23	0.005	0.008	
	29	0.011	0.002	
	30	0.080	0.003	
	31	0.076	0.015	
	32	0.018	0.003	
	33	-0.053	0.006	
	34	16.041	0.030	
	35	2.672	0.015	
	36	-0.136	0.009	
!	37	-0.045	0.038	
9	38	0.005	0.009	
40	39	-0.064	0.020	
	40	0.000	0.003	
	42	-0.018	0.013	
'7	43	0.057	0.005	
	44	-0.005	0.002	
4	45	-0.055	0.004	

: : SST2 STD 2848AD Identity 2: Direct 11:23 AM January 23, 1992

SK Asne : ALL_SIM

aple Weight: 1.0000 Solution Volume: 1.00
-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	Bi	Ta	Нg	Sn	\$i	Ål
59	(ppb)	(ppb)	(app)	(ppb)	(ppm)	(ppb)	(ppb)	(995)
: an	-84.252	-0.416	5044.073	-34.443	1173.913	-17.155	-70.818	283.580
	3.437	0.430	28.000	21.728	913.820	4.159	3.810	16.264
R.S.D.	4.079	103.478	0.515	63.083	77.844	24.243	5.398	5.735
	¥	Zn	Cu	li	Co	Ni	la	EB
	(dqq)	(695)	(dqq)	(dqq)	(ppb)	(ppb)	(ded)	(dqq)
9 8 10	-21.649	-36.475	8.345	-2.648	-1.180	-3.336	5112.874	5080.546
. D .	10.026	1.139	0.670	0.118	2.681	2.316	24.788	12.758
R.S.D.	46.312	3.259	10.559	4,441	227.172	69.427	0.485	0.251
	Fe	Ca	Cr	Жб	Ce	Sm	32	P
	(ppb)	(ppb)	(dee)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
ean	-5.012	37.525	-6.278	5155.984	4972.773	5196.930	-27.548	53.187
.D.	4.341	0.429	2.849	46.456	34.203	19.377	0.828	17.454
R.S.D.	86.612	1.086	45.380	0.901	0.688	0.373	3.006	32.817
	\$	ňą	Ås	На	ďσ	Se	Ag	Pb
	(ppb)	(ppb)	(ppb)	(dad)	(6qq)	(ppb)	(de¢)	(ppb)
	-17.558	-2.776	90.726	-31.949	3.586	12.008	5127.584	4847.065
	8.821	0.330	3.942	7.468	0.767	18.911	7.471	26.679

7.3.).	19.323	13.374	1.315	27.334	26.758	157.430	9.135	0.550
377	Ti (ppb) -8.446	CJ (p3b) 1.079	3 (ppb) 2.983	1 (ppb) -184.430	Na (ppb) -0.631	35 (ppo) -141.575	(ppb) 27.101	)e (opb) 0.435
:. :.3.?.	1.231	1.300 148.354	1.715 57.478	121.273 65.787	0.253 40.960	73.156 51.385	3.134 11.749	\$.235 \$5.462
	11 (ded)				WHC- Adde	SD-WM-DP- ndum 14 F	-025 Rev C	
an D. R.S.D.	33.209 30.653 80.225							

rrected Counts Statistics 11:24 AM January 23, 1992

sk name : ALL_SIM
aple Weight : 1.0000 Solution Volume : 1.00 -Pear Integrations: 3 Off-Peak Integrations: 1

alyte			S.D. Kpulses	ZR.S.D. Kpulses
	1	22.566	0.035	
. ~	2	0.011	0.003	
1 ,,17%	3	-1.80i	0.034	
}	5	15.552	0.046	
1 500	Ь	26.580	0.035	
	7	0.099	0.021	
^	8	12.380	0.011	
1	9	11.929	0.024	
- 1	10	30.832	0.129	
7	11	0.070	0.006	
ا کشار ه	12	0.062	0.002	
1	14	-0.020	0.002	
:	15	-0.069	0.005	
1 150	16	0.255	0.028	
į	17	-0.008	0.001	*
1	18	-0.149	0.004	
?	19	0.022	0.007	
ì	20	0.143	0.001	
r	21	0.013	0.005	
j	22	-0.117	0.058	
ė	24	0.021	0.001	
ŧ	25	-0.096	0.005	
3	26	-0.014	0.002	
	27	1.508	0.010	
	28	4.544	0.008	
1	29	0.010	0.001	
5	30	3.904	0.018	
3	31	0.072	0.004	
3	32	31.232	0.104	
6	33	1.458	0.021	
1	34	-0.053	0.028	
5	35	-0.087	0.002	
i	36	35.915	0.051	
d	37	-0.268	0.042	

	33	0.038	0.003	
	27	-0.053	0.008	
.1	3.)	0.312	9.175	WHC-SD-WM-DP-025
15	42	0.045	0.015	Addendum 14 Rev C
	43	14.023	0.023	
	14	52.314	0.077	
1	25	0.822	0.002	

dentity 1: SST3 ST2 3848AD Identity 2: Direct 11:25 AM January 23, 1992

ASK DBAR : ALL_SIM

Paple Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	3i	Ta	Кq	Sn	Si	Al
	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(pph)	(ppb)	(apb)
e a n	10313.976	-0.584	-1864.865	9910.061	1633326.087	25.182	8090.681	4750.379
.0.	16.134	0.129	35.736	29.379	2297.776	4.946	7.270	10.073
R.S.D.	0.156	22.961	1.916	0.296	0.141	19.643	0.090	0.212
	¥	Zn	Cm	li	03	Ni	La	En
<u>. c.s</u>	(ppb)	(ppb)	(550)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
937	43573.456	-40.166	-1.469	-3.157	-14.007	74.392	-19.017	-5.939
.0.	182.756	0.558	0.536	0.158	1.165	6.720	4.706	0.228
8:8-D.	0.419	1.388	36,472	4.928	8.314	9.033	24.744	3.845
2	Fe	Ca	Cr	Ne	Ce	Sæ	Ba -	ř
	(ppb) :	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)
2911	0.436	-25.591	1.814	-151.429	-120.449	-341.387	-2.826	10385.091
	2.288	0.166	2.175	26.018	2.827	13.429	0.106	68.309
	524.363	0.648	119.899	17.182	2.347	3.934	3,738	0.658
4.00					-			
	. \$	Ħq	As	Ha	No	Se	Αq	Pb
Ú1.	(ppb)	(ppb)	(ppb)	(pph)	(dqq)	(ppb)	(ppb)	(ppb)
599	5223.611	-2.922	5022.719	-34.630	7881.434	4403.638	13.782	-149.113
. ) .	9.259	0.127	23.159	2.474	32.989	60.572	8.927	3.770
Page D.	0.177	4.330	0.461	7.144	0.334	1.376	64.772	2.529
~	Ti	<b>b</b> 3	P	r	ñn	Sb	¥	Be
	(ppb)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
ean	4876.468	-8.305	11.534	-146.163	0.554	207.776	9730.940	9760.897
.D.	6.971	1.766	1.658	36.917	0.506	83.473	15.850	14.332
K.S.B.	0.143	21.256	14.356	25.258	91.300	40.175	0.163	0.147
	71							
	(dge)							
224	4801.375							

16.240

0.338

errected Counts Statistics 11:27 AM January 23, 1992

isk nart : ALL_SIM

.0. R.S.D.

it: 1.0000 Solution Volume: 1.00 ntegrations: 3 Off-Peak Integrations: 1

alvie Chan			3.). Qulsas	22.3.7. Koulses	WHC-SD-WMPDP-025 Addendum 14 Rev 0
	1	0.008	0.009		
	2	0.011	0.005		
	3	-3.393	0.031		
	5	0.008	0.005		
	6	1.569	0.015		
	7	0.072	0.017		
	3	1.332	0.007		
	7	2.635	0.731		
	10	0.039	0.010		
	11	11.348	0.033		
	12	4.262	0.013		
	14	-0.018	0.005		
	15	4.263	0.010		
	16	4.104	0.034		
	17	-0.005	0.000		
	18	-0.092	0.012		
	19	3.030	0.054		
	20	5.990	0.020		
<u>~</u>	21	2.449	0.009		
	22	-0.018	0.068		
ture net	24	0.010	0.011		
	25	-0.073	0.010		
10	26	16.195	0.042		
La artic	27	0.015	0.003		
20	28	0.023	0.003		<i>:</i>
خيماني	29	4.658	0.020		<i>1</i> .
*	30	0.008	0.016		
. ^	31	1.646	0.011		
	32	3.115	0.009		
F "3	33	0.371	0.008		
e2. 1	34	3.149	0.005		
57	35	0.556	0.012		
*www.	36	7.221	0.031		
	37	23.723	0.157		
3.5	38	4.666	0.048		
	39	1.631	0.003		
~	40	9.873	0.032		
	42	0.173	0.093		
	43	1.457	0.007		
	44	5.168	0.022		
	45	0.091	0.010		

entity 1: ICV Identity 2: ICV 11:27 AM January 23, 1992

sk name : ALL_SIM

aple Weight: 1.0000 Solution Volume: -Peak Integrations: 3 Off-Peak Integrations: 1

	27	Sr	Bi	Ta	На	Sa	Si	Al
	(ppb)	(ppb)	(499)	(ppb)	(ppa)	(apb)	(ppb)	(ppb)
30	-16.478	-0.537	-395.525	-4.339	2173.913	18.808	799.014	910.973
D.	4.255	0.229	32.690	2.876	745.840	3.901	4.620	25.180
R.5	25.823	42.647	8.245	58.830	43.509	20.740	0.578	2.764

-a 2.	1 (225) 111,111 14,703 12,889	In (235) 256.731 2.704 0.300	04 (20%) 273.337 2.734 0.337	Li (20%) -2.753 0.513 17.356	00 (375) 1393.723 = 2.252 0.223	372.235 7.278 0.306	0.000 64c) 127.75- 0.000	£4 (275) -2.139 0.775 36.277	WHC-SD-WM-DP-025 Addendum 14 Rev 0
	Fe	Ca	Cr.	На	Ca	S.n	3 a	P	
	(pob)	(6qq)	(666)	(795)	(695)	(200)	(699)	(ppb)	
ŝΠ	983.593	961.996	1021.219	-113.959	-150.809	-272.890	985.792	32.380	
ħ.	17.797	3.322	3.608	30.549	27.700	30.997	2.535	22.295	
2.3.0.	1.909	0.345	0.353	26.807	19.720	11.359	0.257	88.354	
	\$	ρŘ	As	Na	Йo	Se	Åq	Pb	
	(600)	(ppb)	(ppb)	(600)	(ppb)	(ppb)	(ppb)	(ppb)	
à B	-5.745	1015.576	1029.354	938.664	983.745	1013.016	1031.268	1014.810	
Ď.	3.320	4.399	21.210	6.785	2.900	22.410	1.681	20.386	
R.S.D.	57.786	0.433	2.061	0.723	0.295	2.212	0.183	2.058	
	Ti	Cd	В	1	dn.	Sh	٧	Вe	
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(994)	
31)	988.347	999.729	929.909	10058.848	990.738	915.672	1000.102	965.481	
P	4.177	6.593	9.612	19.422	3.227	17.732	4.730	4.029	
P. 5.7	0.423	0.660	1.034	0.193	0.326	1.936	0.473	0.417	
	11								
100	(ppb)								
10	1064.715								
150	67:816	•							
R.S.D.	6.368	•							•

rrected Counts Statistics 11:29 AM January 23, 1992

sk name: AtL_SIM

aple Weight: 1.0000 Solution Volume: 1.00

-Peak Integrations: 3 Off-Peak Integrations: 1

alyte Channel	Mean Kpulses	S.P. Kpulses	ZR.S.D. Kpulses
	0.005	0.002	
2	-0.002	0.004	
3	-0.045	0.030	
5	0.002	0.012	
6	1.554	0.009	
7	-0.023	0.018	
8	0.154	0.063	
9	0.428	0.011	
10	-0.031	0.021	
11	0.038	0.007	
12	0.053	0.004	
14	-0.025	0.003	
15	-0.016	0.019	
16	-0.061	0.001	
17	-0.005	0.000	
19	-0.104	0.004	
19	0.003	0.007	
20	0.095	0.000	

	21	-).::3	1.727	MHC-SD-MM-DP-025
	22	2.377	).351	Add 20 Jun 11 3
	21	1,127	0.003	Addendum 14 Rev 0
1	25	-0 030	0.904	
1				
	2.5	-0.011	0.304	
	27	2.212	0.005	
	23	0.722	0.007	
*	29	0.003	0.001	
;	30	-0.009	0.009	
1	31	9.043	0.008	
:	32	9.202	0.009	
:	33	-0.050	5.008	
:	34	-0.110	0.008	
3	35	-0.002	0.008	
1	34	-0.109	0.006	
j	37	-0.064	0.033	
	38	0.041	0.033	•
	39	-0.051	0.008	
1	40	0.002	0.004	
5	42	-0.023	0.003	
	43	0.021	0.003	
ē	44	-0.008	0.002	
1	4.5	-0.058	0.004	

dentity 1: ICR Identity 2: ICR 11:29 AM January 23, 1992 ask wame : ALL_SIM

earle Weight: i.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Feak Integrations: 1

******			·					
*.*	2r	\$r	Bi	Ta	Нg	Sn	Si	Al
**	(ppb)	(dqq)	(604)	(ppb)	(ppm)	(ppb)	(ppb)	(pph)
690	-17.851	-1.060	-25.135	-8.716	1239.130	-3.541	21.779	-27.001
.0.7	1.058	0.168	31.789	7.873	584.536	3.882	41.722	4.557
R.S.D.	5.924	15.810	126.473	90.322	47.173	109.512	191.565	16.876
" ላታካ	V	Zn	Cu .	Li	Co	Ni	La	En
	(ppb)	. (ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
211	-65.006	-42.993	-3.403	-3.632	-1.416	-0.872	-5.433	-3.013
.P.	29.328	0.646	0.938	0.269	4.559	0.238	0.000	0.263
R.S.D.	45,116	1.502	27.564	7.418	321.906	27.350	0.000	8.722
	Fe	Ca	Cr	หล	C e	Sm	Pa	P
	(ppb)	(699)	(695)	(ppb)	(209)	(666)	(ppb)	(ppb)
ean	-5.774	-33.699	-6.836	-67.171	-102.542	-144.831	-2.643	11.573
.D.	2.144	0.004	2.305	24.181	21.222	11.275	0.220	32.777
8.8.3.	37.121	0.013	33.721	35.999	20.696	7.785	8.321	283.215
	S	# q	Å5	На	ñо	Se	Âg	Pb
	(ppb)	(000)	(ppb)	(699)	(ppb)	(dgg)	(gpb)	(opp)
610	1.832	-4.602	-24.942	-49.267	-1.286	20.859	-4.117	4.329
. ð .	7.638	0.127	11.706	3,779	2.854	16.477	2.548	15.080
R.S.D.	419.555	2.749	46.931	7.670	225,466	79.091	81.379	312.232
	Ti	Cđ	3	ľ	ăп	Sb	¥	3e
	(opb)	(deq)	( £qq)	(ppb)	(ppb)	(695)	(ppb)	(3pb)
9.30	-4.788	0.280	10.010	-107.397	-0.445	-165.478	2.318	-0.124
							-	

.).	0.745	1.400	3.153	36.717	7.413	25.173	1.747	0.235
8.8.5.	15.537	190,510	54.572	33,215		- 15.376 _		227.189
					WHC-SD	-WM-DP-02	5	
	11				Addend	um 14 Rev	0	
	(dad)							
	14.753							
* * *	24.596							
9.3.D.	167.231							

rrected Counts Statistics 11:31 AM January 23, 1992

-sk name : ALL_SIN

imple Weight: 1.0000 Solution Volume: 1.00 -Peak Integrations: 3 Off-Peak Integrations: 1

			S.B. Kpulses	ZR.S.D. Kpulses
	1	0.021	0.002	
-	2	0.110	0.002	
	3	-0.135	0.008	
1 54	5	-0.040	0.008	
	Ь	2.016	0.022	
	7	6.016	0.039	
وسه	8	0.546	0.004	
•	9	607.534	0.414	
70	10	0.044	0.017	
5.00	11	0.253	0.013	•
150	12	0.060	0.003	•
	14	-0.025	0.008	
	15	-0.013	0.016	
and a	16	-0.056	0.012	
	17	-0.042	0.000	
. O.	18	0.055	0.904	
	19	304.617	0.932	
	20	1134.050	3.449	
40	21	0.016	0.013	
	22	3.623	0.076	
~	24	0.015	0.006	
ì	25	-8.518	0.004	
	26	0.030	0.005	
	27	0.018	0.001	
	28	2.215	0.028	
	29	936.602	3.533	
	30	0.100	0.004	
	31	0.077	0.011	
	32	0.007	0.005	
	33	-0.061	0.012	
	34	-0.116	0.001	
	35	-0.101	0.002	
	36	-0.074	0.006	
1	37	0.341	0.020	
	38	-0.446	0.023	
	39	-0.046	0.009	
	40	1.698	0.009	
١	42	-0.007	0.010	
	43	0.027	0.003	

ent ISSA-1 Identity 2: ISSA 11:31 AM January 23, 1992 ask neve : ALL SIM -aple Weight: 1.0000 Solution Volume: 1.00 -Peak Integrations: 3 Off-Peak Integrations: 1 Sn Si (ppb) (ppb) e_r 81 1: Ha 41 7.5 (dec) (600) (dqq) (bob) (505) (agg) (ége) 3.448 -119.740 -35.507 31347.826 1422.055 280.051 252184.997 : គត -10.3727.907 0.034 5.195 1412.374 9.251 2.748 172.036 0.716 R.S.D. 8.830 2.430 6.603 14.631 4,505 0.651 0.981 0.068 ¥ 7 n Ca Li £ο ₩i La (ppb) (ppb) (pph) (ppb) (ppb) (ppb) (ppb) (ppb) -0.708 7.348 -22.905 0.400 -1.933 -156.211 41.460 -3.598 228 2.874 0.000 0.234 0.709 0.771 3.865 .D. 23.805 1.116 57.417 4.874 36.682 21.430 545.754 718.856 0.000 3.191 R.3.D. Fe 63 €r No Çe Ss Ba Ea Er (ppb) (ppb) (ppb) (ppb) (ppb) (dgb) (ppb) (dge) añ : 99567.437 191878.127 135.168 -137.414 -25421.158 3.069 -0.142 48.564 30.940 5.441 0.280 304.564 583.665 17.199 11.275 8.009 . 1. -0.308 0.304 177.262 22.890 12.516 0.044 196.426 16.491 R.S.D. 743 S Às. Na Mo Se Pb : Aq Ħq Plat N (dgg) (ppb) (ppb) . (ppb) (ppb) (ppb) (ppb) (ppb) 238 116.079 -31.743 0.316 -15.299 -6.129 -174.468 850.820 205243.473 774.275 5.162 6.497 1.561 35.451 0.318 4.183 .0. 26.859 29.456 493.253 231.714 4.446 2.397 5.184 R.S.D. 3.157 0.377 V Ti Cd P X Nn Sb (ppb) (pph) (dqq) (ppb) (dee) (ppb) (aph) (ppb) 3 **9 y** 17.297 -77.887 34.000 -80.378 0.995 -86.773 6.024 -0.045 .Dec. 0.891 0.819 4.587 52.093 55,253 1.749 0.215 0.817

67.054

2.356

68.299

29.027

21.650

orrected Counts Statistics 11:33 AM January 23, 1992

1308.314

11 (pob)

-100.092

59,808 59.753

R.S.D.

ean

. 7.

R.S.D.

5.236

ask name : ALL SIM

agale Weight: 1.0000 Solution Volume: n-Peak Integrations: 3 Off-Peak Integrations: 1

4.737

nalyte Channel	Mean Ipulses	S.D. Ipulses	R.S.D. Kpulses
r 1	0.020	0.006	
r 2	0.115	0.006	

	3	-2.143	0.017	100 00 100 00 00
1	5	-0.041	0.013	WHC-SD-WM-DP-025
:	5	2.727	0.013	Addendum 14 Rev 0
*	7	5.049	0.054	
	8	0.551	0.017	
	9	808.503	4.313	
	10	0.036	0.026	
	11	11.631	0.083	
!	12	2.197	0.016	
:	13	-0.011	0.012	
*	15	2.099	0.019	
:	16	4.003	0.012	
į	17	-0.041	0.002	
;	13	0.058	0.007	
÷	19	306.086	2.360	
3	20	1140.154	5.671	
•	21	1.275	0.027	
3	22	3.572	0.079	
ę	24	0.017	0.011	
	25	-8.567	0.009	
i	26	8.390	0.057	
-3	27	0.018	0.003	
*3	28	2.251	0.021	
3 01	29	938.508	4.562	
:	30	0.131	0.002	
š . 🜛	31	0.107	0.026	
)	35	0.010	0.003	
5	33	-0.004	0.009	•
1 00 1	34	3.227	0.023	
ን * ′	35	0.441	0.013	
i	36	-0.076	0.011	
;	37	24.319	0.140	
4.00	38	-0.470	0.029	
	39	-0.060	0.007	
√ <b>∵</b> '	40	6.748	0.045	
j	42	-0.012	0.009	
	43	0.763	0.006	
ن المار ع د المار ع	44	2.737	0.023	
1	45	-0.063	0.006	

fentity 1: ICSAR-1 Identity 2: IESAR 11:34 AM January 23, 1992

ask name : ALL_SIM smple Weight : 1.0000 Solution Volume : 1.00 n-Peal Integrations: 3 Off-Peak Integrations: 1

	Zr	5r	31	Ta	Яg	Sn	5i	Al
	(ppb)	(dq¢)	(≰çç)	(996)	(pps)	(ppb)	(ppb)	(ppb)
9 a fi	-10.782	3.650	-133.703	-35.932	32217.391	1429.845	283.571	252608.921
.D.	2.944	0.222	17.283	8.292	868.478	15.159	11.450	1306.295
R.S.D.	26.808	6.075	12.926	23.078	2.696	1.060	4.038	0.715
	¥	2,	C=-	li	Co	Ni	La	Εg
	(600)	(696)	(699)	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)
248	27.502	991.997	494.146	-2.240	497.791	938.231	-153.494	7.565
	37.393	7.427	3.618	1.139	4.506	2.884	8.483	0.470
	135.986	0.749	0.732	53.074	0.905	0.290	5.527	6.219

WHC-SD-WM-DP-025 Addendum 14 Rev 0

	F 2 -	Ca	Cr -	28	Ca	51	31-	P
	(000)	(695)	(555)	(205)	(695)	(695)	(5)3)	(٤ςς)
230	100047.733	.72710.133	529.332	104.745	-132.701	-25558.073	509.750	53.187
.2.	771.570	759.799	11.475	23.740	31.145	25.445	3.471	17.354
7,5	0.771	0.498	2.167	27.529	23.170	0.100	0.385	32.317
	S	Ng	Às	На	Яo	Se	Aq	P3-
	(dgc)	(ppb)	(906)	(609)	(600)	(ppb)	(ppb)	(aph)
939	883.719	205641.158	155.357	-12.776	1.255	32.940	1056.051	307.139
.3.	17.733	777.312	2.977	15.321	0.911	27.935	7.178	32,212
R.S.D.	2.038	0.436	1.710	123.827	72.168	84.308	0.631	3.791
	Τi	Ed	1	ž.	Xn-	55	V	11 ~
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
e a n	-0.361	1024.743	-91.546	-162.276	540.936	-104.801	517.655	512.092
.3.	1.507	5.868	3.992	44.537	3.919	46.914	4.339	4.312
R.S.P.	417.582	0.573	4.361	27.445	0.724	44.765	0.838	0.842
	11							
	(ppb)							
en Im	-20.393							
. P.	41.205							
R:5.D.	202.052							

omcected Counts Statistics 11:35 AM January 23, 1992 ask name : ALL_SIM

asst ht: 1.0000 Solution Volume: 1.00 n-Peak __tegrations : 3 Off-Peak Integrations : 1

uajyje (	Channel		S.D. Xpulses	ZR.S.D. Kpulses
r	1	0.017	0.004	
r	2	0.004	0.005	
i som	2	-0.038	0.040	
à	5	-0.005	0.012	
~ ~	Ł	1.550	0.012	
n	7	0.005	0.003	
i	8	0.111	0.002	
1	9	0.462	0.011	
	10	0.017	0.024	
ก	11	0.051	0.006	
Ų.	12	0.053	0.004	
i	14	-0.007	0.003	
g*	15	0.005	0.006	
i	16	-0.071	0.011	
ð	17	-0.003	0.001	
3	18	-0.080	0.006	
ę	19	0.023	0.009	
à	25	0.168	0.029	
r	21	-0.003	0.008	
d	22	0.108	0.065	
ę	24	0.035	0.007	
1	25	-0.013	0.007	
a	28	0.010	0.008	

27	0.012	0.301	WHC-SD-WM-DP-025
29	0.965	0.002	Addendum 14. Rev 0
27	0.061	0.021	Madoria and Later Control
30	0.000	0.009	
31	0.058	0.308	
32	0.008	0.009	
33	-0.045	0.021	
34	-0.105	0.002	
35	0.003	0.011	
35	-0.093	0.005	
37	-0,142	0.018	
38	0.037	0.020	
37	-0.067	0.005	
40	0.002	0.005	
42	0.003	0.007	
43	0.015	0.002	
44	-0.011	0.001	
45	-0.078	0.004	

11:36 AM January 23, 1992

entity 1: XXX Identity 2: Rinse 11:36 AM Janua sk hame: ALL SIM apla Meight: 1.0000 Solution Volume: 1.00 -Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	5r	Bi	Ta	Ha	Sn	Si	Al
10	(ppb)	. (ppb)	(ppb)	(ppb)	(ppm)	(ppb)	(ppb)	(pçb)
30	-12.356	-0.845	-18.153	-12.969	956.522	2.990	-6.600	-13.016
an D. No.	1.608	0.199	42.360	7.839	768.902	0.625	1.374	4.681
	13.015	23.490	233.351	60.439	80.385	20.888	20.817	35.966
	¥	: 2n	C a	Li	€o	Ni	l a	E۱
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
3HCV	2.853	-41.862	-3.558	-2.003	3.820	-3.256	4.076	-1.452
D.	34,458	0.497	0.938	0.353	1.518	2.523	2.353	0.392
R.S.D.	1207.749	1.187	26.366	17.614	41.92B	77.495	57.728	26.989
192	Fe	Ca	Cr	Hđ	Γe	Sm	ð a	P
~	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	{ppb}
311	0.872	-21.347	-5.022	-50.480	-81.807	-92.217	-1.362	9.261
D.	2.780	4.920	3.357	29.011	19.860	21.129	0.499	6.936
R.S.D.	318.740	23.047	66.842	57.469	24.276	22.912	36.651	74.890
	5	Йq	As	Na	No	Se	Ag	Pb
	(ppb)	(ppb)	(ppb)	(644)	(646)	(ppb)	(ppb)	(ppb)
311	-5.588	8.181	-12.902	-43.288	-0.211	34.023	-2.528	13.281
<b>)</b> .	2.436	5.181	10.558	4.669	2.728	59.532	0.734	20.410
9.5.D.	43.579	63.330	81.832	10.787	1293.390	174.975	29.021	153.680
	Ti	Cq	P	X	Ħn	Sb	٧	30
	(dgb)	(gpb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
an	-2.710	-3.011	9.214	-204.570	-0.387	-23.899	-2.314	-0.560
p.	0.695	0.764	4.004	31.005	0.502	38.171	1.061	0.108
R.S.D.	25.658	25.387	43.452	15.156	129.860	151.354	45.372	19.246

11 (ppb) prrected Counts Statistics 11:38 AM January 23, 1991

ask name : ALL_SIM

exple Weight: 1,0000 Solution Volume: 1.00

n-Peak Integrations: 3 Off-Peak Integrations: 1

nalyte C	hannel	Mean Xpulses	S.D. Kpulses	ZR.S.D. Kpulses
τ	1	0.000	0.007	
r	2	-0.015	0.007	
i	3	-0.076	0.018	
a	5	-0.016	0.014	
Q	6	1.540	0.011	
n	7	-0.015	0.006	
i	8	0.092	0.002	
1	7	0.264	0.027	
	10	-0.019	0.029	
101	11	0.304	0.011	
ч.	12	0.247	0.005	
i 177	14	-0.023	0.008	
0	15	0.400	0.008	
i 🏥	16	0.282	0.012	
a propro	17	-0.005	0.002	•
1 . 12	18	-0.095	0.009	
2	19	0.014	0.005	
a	20	0.192	0.002	
	21	0.036	0,007	
d d	22	-0.070	0.078	
	24	-0.005	0.013	
4	25	-0.041	0.011	
*	26	-0.025	0.006	
r.	27	0.015	0.002	
	. 28	0.000	0.007	
, ~	29	0.011	0.002	
9 5	30	0.012	0.011	
3	31	0.029	0.013	
ŗ.	32	0.011	0.002	
e e	33	-0.034	0.008	
a	34	-0.061	0.005	
b	35	-0.005	0.004	
i	36	-0.127	0.004	
d	37	0.155	0.041	
•	38	0.007	0.011	
	37	-0.086	0.009	
n	40	0.296	0.000	
b	42	0.011	0.011	
	43	0.168	0.007	
ie	44	0.045	0.002	
1	45	-0.044	0.008	

intity 1: CNI-1 lightity 2: CNI 11:33 M January 23, 1792 MHC-SD-MM-DP-025 Addendum 14 Rev 0 at page : ML SIA sole Jeight: 1.0000 Solution Volume: 1.00

-Poak Internations : 3 Off-Peak Internations : 1 31 Sa 5i 11 73 33 (663) (605) (000) (506) (dec) (600) (600) (505) -57.501 -1.731 -19.579 -20.198 282.609 -95.127 -19.836 -1.610 1.374 11.280 3.218 0.274 18.744 8.938 697.348 1.436 5. 17.017 32.542 44.251 246.754 92.947 7.017 11.353 16.215 9.9.0. Za Li 03 Ni Li €₩ y (ppb) (ppb) (0pb) (ppb) (650) (555) (dac) (005) -2.406 41.547 -3.462 96.733 30.709 -5.433 -48.132 -1.448 0.556 0.963 0.791 1.844 2.750 7.058 1.206 41.524 D. 3.378 23.092 66.501 2.903 22.845 1.905 129.916 88.271 R.S.D. P ۲r 114 C e Sa. Ra F p Ēa (ppb) (ppb) (000) (dgg) (ppb) (ppb) (ppb) (ppb) 11.580 -177.590 -17.317 -130.215 -193.021 -3.477 -2.070 32.380 34.977 33.208 36.466 0.392 10.594 1.677 0.292 2.769 Ð, 1.688 25.643 26.861 18.892 18.699 11.279 32.719 81.046 8.50h Pb Âq 5 Å5 Na Ħо S # Ħа (ppb) (ppb) (ddq) (ppb) (dgg) (ppb) (ppb) (app) -1.812 1.582 62.279 11.346 -22.943 -2.776 2.584 -61.431 22.129 1.456 7.319 1. 3.5.7. 0.438 13.591 7.953 0.731 7.862 404.033 46.187 35.531 12.833 15.790 525.908 12.946 34.267 200 ¥ Sb Τi Εd 8 K Ħn (ppb) (ppb) (ppb) (ppb) (ppb) (gpb) (ppb) (ppb) 3.248 18.391 103.996 9.887 -7.227 9.482 -198.528 29.118 .- 0.000 4.930 0.285 58.982 0.513 1.719 2.089 51.387

25.884

0.001

320.703

11 (ppb) 113.219 30,000 42.388 j. R. 5.70. 37.439

7.099

rrected Counts Statistics 11:40 AM January 23, 1992

64.310

sk name : ALL SIM

aple Weight: 1.0000 Solution Volume: 1.00 -Peak Integrations: 3 Off-Peak Integrations: 1

18.132

alyte Channel	Mean Kpulses	S.D. Kpulses	ZR.S.D. Koulses
1	0.014	0.005	
2	9.007	0.006	
3	-0.168	0.013	
5	0.017	0.011	
8	1.544	0.005	
7	-9.008	0.014	
8	0.711	0.012	

. 2.882

4.740

	9	1.492	7.004	WHC-SD-WM-DR-025
	12		1.923	Addendum 14 Ray O.
	!1	5.543	0.330	
	12	2.159	0.005	
	14	-0.012	0.303	
	15	2.392	0.027	
	16	1.737	0.036	
	17	-0.002	9.001	
	18	-0.079	0.005	
	19	1.498	0.021	
	20	2.773	0.022	
	21	1.205	0.005	
	22	0.149	0.042	
	24	0.033	0.008	
	25	-0.035	0.005	
	26	180.8	0.051	
	27	0.016	0.002	
	28	0.029	0.004	
	29	2.278	0.017	
	30	0.381	0.012	
	31	0.850	0.018	
	32	1.512	0.022	
	33	0.137	0.013	
, e	34	1.517	0.009	
•	35	0.268	0.014	
. ~	35	3.526	0.931	
1	37	11.575	0.020	
e gazag	38	2.345	0.027	
74.54	39	0.786	0.006	÷.
\$	40	4.875	0.026	
) .~	42	0.087	0.010	
	43	0.721	0.004	
? " "	44	2.545	0.015	
	45	-0.019	0.007	•

entity 1: CCV-1 Identity 2: CCV 11:40 AM January 23, 1992

ask name : ALL_SIM

rapte Weight: 1.0000 Solution Volume: 1.00
-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	\$r	Di	Ta	Ha	Sa	Si	21•
	(dqq)	(ppb)	(ppb)	(ppb)	(pps)	(ppb)	(aph)	(ppb)
110	-13.730	-0.725	-153.951	1.064	565.217	-0.000	389.388	414.985
.D.	2.350	0.243	18.744	8.751	298.884	3.341	7.649	1.573
R.S.D.	17.115	33.487	12.175	634.295	52.876	88086292.569	1.764	0.379
	¥	Zn -	Cu —	Li	Co	Hi_	La	Ea
	(ppł·)	{ppb}	(699)	(ppb)	(ppb)	(ppb)	(69g)	(dad)
230	12.587	457.360	485.917	-2.342	496.296	487.511	8.792	-1.366
.0.	39.796	2.549	1.171	0.327	6.274	8.518	4.075	0.406
R.S.D.	316.663	0.579	0.246	13.976	1.264	1.768	59.995	29.737
	FP _	Ci_	€r_	ид	Ce	Sa	84~	P
	(ppb)	(ppb)	(ppb)	(ppb)	(dec)	(ppb)	(ppb)	(ppb)
Ean	483.026	453.217	500.565	-35.501	-87.462	-157.736	490.924	34.692
.).	6.875	3.717	2.149	18.912	23.713	14.990	3.089	14.438

1.3.2.	1.423	0.320	0.429	53.273	27.112	9.503	0.329	41.517	WHC-SD-WM-DP-025
	\$	72	3:	'i3	70	S2 ~	14.	25	Addendum 14 Rev 0
	(500)	(ppb)	(396)	(556)	(656)	(226)	(600)	(695)	
	5,544	498.475	479.767	148.348	475.577	449.599	512.822	473.922	
	1.035	3.515	14,376	10.169	6.334	36.271	2.702	24.722	
9,5.	72.375	0.725	3.107	2.278	1.434	3.067	0.527	5.008	
	īį	Cdm	P _	<u> </u>	ňn —	56 _	٧	Re ~	
	(ppb)	(996)	(dee)	(000)	(000)	(690)	(dqq)	(dq¢)	
ה וּ	487.715	489.312	458.759	4951.307	490.934	441.290	438.472	476.149	
.7.	4.172	9.857	5.273	37.733	2.620	55.801	2.595	2.333	
K.S.D.	0.855	0.175	1.126	0.762	0.534	12.645	0.513	0.602	
	<b>3</b> 1								
	(ppb)								
. 91)	293.713								
Ď.	46.823								
R.S.D.	15.742								

rrected Counts Statistics

11:42 AM January 23, 1992

sk name : ALL_SIM

aple Weight : 1.0000 Solution Volume : 1.00
-Peak Integrations : 3 Off-Peak Integrations : 1

alxte CI	nannel	Mean Kpulses	S.D. Kpulses	R.S.D. Kpulses
	1	0.013	0.007	
	2	0.002	0.005	
~ ~	3	-0.061	0.018	
	5	0.007	0.014	
6	6	1.554	0.010	
	7	-0.056	0.017	
	8	0.120	0.006	
200	9	0.328	0.017	
W 8"	10	-0.006	0.007	
~	11	0.029	0.004	
	12	0.044	0.004	
	14	-0.013	0.009	
	15	0.002	0.009	
	16	-9.035	0.013	
	17	-0.002	0.002	
	18	-9.088	0.003	
	19	0.004	0.014	
	20	0.100	0.001	
	21	-0.016	0.003	
	22	0.042	0.017	
	24	0.027	0.007	
	25	-0.023	0.012	
	26	-0.002	0.009	
	27	0.018	0.002	
	28	0.014	0.018	
	29	0.006	0.001	
	30	-0.020	0.004	
	31	0.050	0.018	

2	32	0.301	0.009	
?	23	-0.051	0.007	WHC-SD-WM-DP-025
;	34	-0.119	0.003	Addendum 14 Rev 0-
)	35	-0.003	0.006	
4	38	-0.117	0.006	
*	37	-9.081	0.030	
	33	0.017	0.012	
	37	-0.159	5.004	
٦	40	0.010	0.008	
:	4.2	0.008	0.014	
	43	0.021	0,004	
3	44	-3.306	0.001	
1	45	-0.066	0.003	

mentity 1: CCB-1 Identity 2: CCB 11:43 AM January 23, 1992

ask name : ALL SIM

smple Weight: 1.0000 Solution Volume: 1.00

	Zr	Sr	Bi	Ta	Hq	Sn	Si	Al
	(dad)	(ppb)	(ppb)	(ppb)	(pps)	(ppb)	(ppb)	(666)
911	-14.035	-0.912	-41.891	-5.314	1217.391	-11.489	-1.100	-68.680
٥.	3.302	9.134	19.320	9.043	680.890	3.981	3.867	6.914
R.S.D.	23.528	20.217	46.120	170.166	55.930	34.648	351.568	10.067
19	¥	Zn	C n	Li :	€o	Ni	la ·	Éu
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
314	-29.167	-43.796	-5.647	-2.444	2.912	5.248	6.792	-1.973
)	9.272	0.314	0.815	0.924	2.063	3.175	7.058	0.164
R.S	31.787	0.716	14.435	37.807	70.838	60.502	103.915	8.296
10.00	Fe	€a	Cr	No	Ce	Sa	Ba	p
200	(ppb)	(ppb)		(ppb)			(ppd)	(ppb)
n	-5.556	-32.902	-10.324	-79.761	-103.484	-123.984	-2.114	48.564
-	4.729	0.097	1.107	7.472	18.541	35.280	0.553	16.017
.5.1.	85.116	0.295	10.726	9.367	17.917	28.455	26.175	32.982
·	\$	Mq	A s	Na	No	5e	ρĄ	Pb
, ,	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
9.6	-7.027	-3.798	-39.133	-48.236	-1.688	-11.317	-7.189	3.018
	20.275	0.127	5.214	11.354	2.813	19.007	0.971	10.612
a.s.D.	288.835	3.331	13.323	23.538	166.656	168.654	13.503	351.626
	Ti	63	3	K	ăп	Sb	٧	Re
	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)	(29b)	(ppb)	(pph)
л	-5.972	-0.462	5.237	-154.219	0.358	3.682	2.087	0.249
).	0.817	1.259	2.288	24.168	0.780	75.833	2.779	0.215
R.S.P.	13.910	272.417	43.685	15.671	217.857	2059.675	133,195	86.595
	71							
	(ppb)							
s fi	-36.802							
	22 145							

22.605 R.S.P

orrected Counts Statistics 11:44 AM Company 23, 1992

ask hade : ALL SIX

right: 1.0000 Solution Value: 1.00 entations: 3 Off-Peak Integrations: 1

		1134 14(04) 4(1905)	*
alyte Channel	dean Koulses		ZR.S.D. Ipulses
1		0.036	
		0.413	
2	0.588	0.010	
5		0.027	
. 6	6.273	0.077	
. 7		0.074	
. ,	1.871	0.013	
9	3,286	0.022	
10	5.915	0.049	
1 11	22.416	0.139	
12	4.204	0.033	
: 14	18.975	0.213	
15	8.289	0.089	
15	4.091	0.047	
17	0.245	0.002	
18	15.377	0.137	
19	3.187	0.048	
20		0.111	
්ත .21	2.430	0.027	
22		0.118	
24	0.398	0.012	
25		0.015	
26	32.086	0.276	
27	0.311	0.008	
28	0.986	0.007	
. 🔼 29		0.035	
30	0.800	0.013	
31	4.938	0.034	
32	6.295	0.029	
33		0.008	
34	1.073	0.260	
35	0.562	0.007	
36	7.077	0.057	
37		0.292	
38	7.170	0.057	
39	0.120	0.007	
40	9.754	0.084	
- 42	0.159	0.006	
43	2.844	0.016	
14	10.407	0.082	
45	0.086	0.911	

entity 1: R739 Aig. STB 10-50 Identity 2: 1948AA, 2848AB, 3848AB 11:46 AM Company 23, 1992

sk name : ALL_SIM

aple oht: 1.0000 Solution Volume: 1.00 egrations: 3 Off-Peak Integrations: 1

rrected Counts Statistics 11:44 AM January IJ, 1772

esk habe : ALL_SIM

aple Pright: 1.0000 Solution Volume: 1.00 -Pa parations: 3 Off-Peak Integrations: 1

WHC-SD-WM-DP-025 Addendum 14 Rev 0

alyte Ch		Aean Xpolses	S.D. Xpulses	R.S.D. Ipulses
	1	4,509	0.038	
	2	42.871	4,43	
	3	0.536	0.010	
	5	1.172	0.027	
	6	8.273	0.077	
	7	4.276	0.074	
	8	1.871	0.013	
	9	3.286	0.022	
	10	5.915	0.049	
	11	22.418	0.139	
	12	4.204	0.033	
	14	18.975	0.213	
-	15	8.289	0.089	
4 61	18	4.091	0.047	
r	17	0.245	0.002	
'	13	15.377	0.139	
-	19	3.187	0.048	
	20	12.413	0.111	
10	21	2.430	0.027	
N.O.	22	2.393	0.118	•
4".	24	0.398	0.012	
. ~	25	0.263	0.015	
	26	32.086	0.276	
* *	27	0.311	0.008	
	28	0.966	0.007	
1	29	4.715	0.035	
	30	0.800	0.013	
-	31	4.938	0.034	
1.79	32	6.295	0.029	
4*	33	0.343	0.008	
~	34	1.073	0.260	
	35	0.562	0.007	
	36	7.077	0.057	
	37	45.646	0.292	
	38	7.170	0.037	
	39	0.120	0.007	
	40	9.754	0.084	
	42	0.159	0.006	
	43	2.844	0.016	
	44	10.407	0.082	
	45	0.086	0.011	

lentity 1: R739 Dig. STD 10-50 Identity 2: 1848AA, 2848AB, 3848AB 11:46 AM January 23, 1992

ask name : All_SIM

ample "Inht: 1.0000 Solution Volume: 1.00 e-Pe equations: 3 Off-Peak Integrations: 1

137	7r (;;)) 2044,678 18,372 0,302 9 (opb) 8337,551	\$r (000) 1900.134 18.311 0.348 Zn (peb) 1954.909	36 (225) 335,353 10,100 1,590 Cu (ppb) 959,397	Ta ()2) 737.534 17.072 2.315 Li (ppb) 1931.122	119 (120) 200773.251 5042.028 1.632 Co (ppb) 1959.059	\$4 1739)	31 (335) 1154.523 3.307 0.728 La (ppb) 1014.697	Al (20%) 1157,736 9,139 0,792 Eu (30%)	MHC-SD-WM-DF Addendum 14
	69.010	12.440	7.639	21.639	20.904	11.138	8.483	9.058	
5 6 %	0.929	4.536	0.301	1.121	1.067	1.128	0.338	0.902	
	Fe	6 3	Cr	Hd	Сe	Sa	Pa	r	
	(699)	(556)	(pp4)	(606)	(ppb)	(ppb)	(444)	(ppb)	
ean	1035.132	2049.103	1013.407	961.502	944.566	728.752	1955.035	2085.352	
.D.	15.766	18.750	11.393	53.132	33.135	45.848	16.815	53.873	
R.S.D.	1.523	0.915	1.124	5.526	3.508	6.291	0.860	2.583	
	Ŝ	Mq	Ås	Ha	No	Se	Aq	Pb	
	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)	(666)	(ppb)	(ppb)	
530	1073.504	1028.067	1019.452	2974.931	1990.188	933.342	371.655	1026.281	
. NOT	7.948	7.679	16.474	21.029	9.271	20.539	82.557	12.059	
R.S.D.	9.740	0.747	1.816	0.707	0.466	2.201	22.213	1.175	
	Τi	Cd	3	ť	Яn	Sb	¥	ñ e	
* ~	(ppb)	(dpd)	(ppb)	(ppb)	(699)	(ppb)	(ppb)	(ppb)	
23/145	968.830	1920.832	1427.876	929.320	977.978	838.447	1963.839	1942.839	
.D.	7.764	12.251	11.236	42.868	8.428	35.463	10.994	15.307	
1987 D.	0.801	0.638	0.787	4.613	0.862	4.230	0.560	0.788	
	11								
~~	(ppb)						-		
53D	1932.098				*				
1	77.461								

R.S.B. 7.505

orrected Counts Statistics 11:51 AM January 23, 1992

ask name : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

halyte C	hannel	Mean Xpulses	S.D. Xpulses	ZR.S.D. Ipulses
r	1	0.016	0.001	
r	2	0.017	0.002	
1	3	-0.034	0.016	
3	5	-0.028	0.016	
3	δ	1.558	0.009	
ล	7	-0.032	0.006	
i	8	0.946	0.018	
1	9	0.733	0.024	
	10	-0.012	0.018	
n	11	0.211	0.006	
	12	0.229	0.007	
	14	-0.012	0.003	

	15	-9.303	0.392	WHC-SD-WM-DP-025
	15	-0.067	0.113	Addendum 14 Ray O
	17	-0.005	9.000	
	18	-0.092	0.007	
	17	0.156	0.004	
	23	1.203	9.172	
	21	0.300	0.007	
	22	0.044	0.010	
	24	0.029	0.003	
	25	-0.034	0.002	
	25	-9.000	0.005	
	27	0.015	0.003	
	28	0.051	0.007	
	29	0.093	0.002	
	30	-0.019	0.007	
	31	1.944	0.022	
	32	-0.000	0.006	
	33	-0.047	0.007	
	34	-0.110	0.006	
1	35	-0.002	0.009	
	36	-0.091	0.008	
	37	-0.117	0.020	
10	38	3.338	0.030	
	37	-0.064	0.008	
13	40	0.009	0.005	
10	42	0.008	0.014	
*	43	0.026	0.002	
	44	-0.008	0.001	
	45	-0.056	0.002	. :
100	, ,	*****		

_940 Tentity 1: <del>171</del>45 Dio Blank Identity 2: Direct

11:51 AM January 23, 1992

isk name : ALL_SIM
imple Weight : 1.0000 Solution Volume : 1.00

-Peak Integrations: 3 Off-Peak Integrations: 1

r yea	Zr	Sr	₿i	Ta	Нą	S#	5í	Al
**`	(ppb)	(ppb)	(ppb)	(6qq)	(açq)	(ppb)	(ppb)	(dee)
2911	-12.814	-0.295	-13.964	-26.364	1456.522	-5.823	544.263	99.696
.0.	9.264	9.961	17.145	9.902	554.667	1.423	12.098	9.842
£.5.D.	2.083	20.830	122.780	37.569	38.082	24.437	2.223	9.872
	¥	Zn	Са	Li	Co	Hi	La	€ 0
	(690)	(pob)	(ppb)	(ppb)	(ppb)	(ppb)	(ded)	(ppb)
= 3.0	-37.216	-27.607	37.292	-2.342	1.731	-2.223	-5.433	-2.211
.1.	25.918	0.492	1.580	0.258	0.491	4.200	0.000	0.455
R.S.D.	69.642	1.781	4.237	10.742	28.385	188.956	0.000	20.588
	Fe	Ca	Ĉ٢	Иб	Ce	Sa	8 a	P
	(ppb)	(555)	(699)	(655)	(600)	(699)	(dqq)	(ppb)
- an	44.239	153.871	-3.488	-80.220	-98.772	-154.758	-1.992	30.068
.2.	1.425	29.159	3.085	4.188	8.162	6.179	0.275	18.350
R.S.D.	3.221	13.950	33.458	5.221	8.264	4.006	13.804	61.028
	S	ξq	As	На	No	Se	Ag	Pb
	(ppb)	(ppb)	(pab)	(ppb)	(ppb)	(pot)	(ppb)	(ppb)
659	34.440	15.121	-37.410	1123.179	-2.110	25.372	-4.329	4.225

3	15	-0,003	0.002	
1	13	-0.067	0.013	WHC-SD-WM-DP-025
3	17	-0.005	0.000	Addendam 14 Sev O
4	13	-0.392	0.007	
	1.0	1.158	0.004	
	20	1.203	0.172	
*	21	0.000	0.007	
2	22	0.014	0.010	
9	24	0.029	0.003	
t	25	-0.034	0.002	
i	26	-0.000	0.005	
	27	0.015	0.003	
	28	0.051	0.007	
3	29	0.093	0.002	
<u> </u>	30	-0.019	0.007	
3	31	1.944	0.022	
9	32	-0.000	0.008	
£	33	-0.047	0.007	
q	34	-0.110	0.006	
Ъ	35	-0.002	0,009	
i	36	-0.091	0.008	
đ	37	-0.117	0.020	
9	38	3.338	0.030	
	39	-9.064	0.008	
4 2. July 1	40	0.009	0.005	
b. ~	42	0.008	0.014	
• :	43	0.028	0.002	
620	44	-0.006	0.001	
1	4.5	-0.056	0.002	
- February				

2940

dentity 1: R945 Dig Blank Identity 2: Direct 11:51 AM January 23, 1992

ask name : Alt_SIM

Papele Weight: 1.0000 Solution Volume: 1.00

n-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	Bi	Ta	Ħq	Sm	Si	ÅI
T.C	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppb)	(ppb)	(ppb)
ean_	-12.814	-0.295	-13.964	-26.364	1456.522	-5.823	544.263	99.696
i. (*)	0.264	0.061	17.145	9.902	554.667	1.423	12.098	9.842
: k.S.D.	2.063	20.830	122.780	37.560	38.082	24.437	2.223	9.872
	¥	Zn	Cu	ti	Co	Mi	Ĺa	Eu
	(ppb)	(ppb)	(ppb)	(dgg)	(ppb)	(ppb)	(ppb)	(ppb)
*230	-37.216	-27.607	37.292	-2.342	1.731	-2.223	-5.433	-2.211
.p.	25.918	0.492	1.580	0.256	9.491	4.200	0.000	0.455
. R.S.D.	69.542	1.781	4.237	10.942	28.385	188.956	0.000	20.588
	Fe	Ca	Cr	Nd	Ce	Sm	Ba	P
	(ppb)	(696)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(pyb)
lean.	44.239	153.871	-3,488	-80.220	-98.772	-154.758	-1.992	30.068
3.9.	1.425	29.159	3.085	4.198	8.162	6.179	0.275	18.350
. R.S.D.	3.221	18.750	88.458	5.221	8.264	4.006	13.804	61.028
	\$	Ħq	As	Ha	Ħо	Se	Ag	Pb
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
	34.440	15.121	-37.410	1123.179	-2.110	26.892	-4.329	4.225

.7.	7,055 22,303	1.158 3.117	7.031 24.137	13.c.;7 1.211	1.727	17.770 73.572	1.252	14.3°9 372.33?	WHC-SD-WM-DP-025
3n .0. ₹.3.₽.	Ti (ppb) -2.34? 1.035 44.063	8d (200) -1.975 0.929 41.985	3 (ppb) 565.312 5.040 0.707	X (200) -138,114 -34,334 -18,710	Nn (ppb) 0.193 0.459 238.356	\$) (pp0) 1.343 76.479 4130.516	y (995) 5.551 1.399 24.290	3e (393) 0.219 9.213 38.395	Addendum 14 Rev O
ean .D. R.S.D.	T) (906) 37,520 10,742 32,046								

orrected Counts Statistics 11:57 AM January 23, 1992

ask name : ALL_SIM

saple Weight: 1.0000 Solution Volume: 1.00

:-Peak Integrations: 3 Off-Peak Integrations: 1

1 0.047 0.013 2 0.045 0.017 3 -0.037 0.012 3 5 0.004 0.027 4 5 0.009 6 1.573 0.009 7 0.064 0.001 8 5.027 0.039 1 0 0.326 0.039 1 10 0.326 0.039 1 11 0.612 0.008 1 12 0.535 0.003 1 14 0.222 0.016 2 15 0.047 0.004 1 16 0.140 0.010 2 17 -0.003 0.002 2 18 -0.053 0.013 9 19 0.948 0.027 18 -0.053 0.013 9 19 0.948 0.027 18 20 1.600 0.022 7 21 2.434 0.023 1 22 0.166 0.048 2 24 0.063 0.018 2 25 0.013 0.024 2 26 0.053 0.018 2 27 1.447 0.035 2 28 27.371 0.340 2 29 0.197 0.003 2 32 0.287 0.008 2 33 0.042 0.012 3 34 -0.094 0.011 3 34 -0.094 0.011	a Nixte	Channel	Mean Xpolses	S.D. Kpulses	ζR.S.D. Kpulses
	1 - 2	1			
5         0.004         0.027           6         1.573         0.009           7         0.064         0.001           1         8         5.027         0.039           1         9         125.735         1.402           10         0.326         0.039           11         0.612         0.008           12         0.535         0.003           14         0.222         0.016           15         0.047         0.004           16         0.140         0.010           2         17         -0.003         0.002           17         -0.003         0.002           18         -0.053         0.013           2         19         0.948         0.027           3         20         1.600         0.022           7         21         2.434         0.023           3         22         0.166         0.048           2         24         0.063         0.018           3         26         0.053         0.020           27         1.447         0.035           28         27.371         0.340	r	2	0.045	0.017	
6 1.573 0.009 7 0.064 0.001 1 8 5.027 0.039 1 7 125.736 1.402 10 0.326 0.039 11 0.612 0.008 11 0.612 0.008 11 0.612 0.008 11 0.722 0.016 12 15 0.047 0.004 13 16 0.140 0.010 14 0.022 0.016 15 0.047 0.004 16 0.140 0.010 17 -0.003 0.002 18 -0.053 0.013 19 0.948 0.027 21 2.434 0.023 16 22 0.166 0.048 2 24 0.063 0.018 2 25 0.013 0.024 3 26 0.053 0.020 27 1.447 0.035 28 27.371 0.340 10 29 0.197 0.003 11 32 0.267 0.008 12 33 0.042 0.012 13 34 -0.094 0.011 15 35 -0.015 0.003	1 ***	3	-0.037	0.012	
7 0.064 0.001 1 8 5.027 0.039 1 9 125.736 1.402 10 0.326 0.039 11 0.612 0.008 11 12 0.535 0.003 1 14 0.222 0.016 15 0.047 0.004 1 16 0.140 0.010 1 18 -0.053 0.013 1 19 0.948 0.027 1 21 2.434 0.023 1 22 0.166 0.048 1 22 0.166 0.048 1 22 0.166 0.048 1 22 0.166 0.048 1 22 0.166 0.048 1 22 0.166 0.098 1 23 0.023 0.012 1 2447 0.035 1 28 27.371 0.340 1 29 0.197 0.003 1 29 0.197 0.003 1 30 0.002 0.012 1 31 -20.807 0.000 1 32 0.267 0.008 1 34 -0.094 0.011 1 34 -0.094 0.011	3	5	0.004	0.027	
1       8       5.027       0.039         1       9       125.735       1.402         10       0.326       0.039         1       12       0.535       0.003         1       14       0.222       0.016         2       15       0.047       0.004         1       16       0.140       0.010         2       17       -0.003       0.002         3       19       0.948       0.027         4       20       1.600       0.022         7       21       2.434       0.023         4       22       0.166       0.048         2       24       0.063       0.018         2       24       0.063       0.018         3       25       0.013       0.024         4       26       0.053       0.020         27       1.447       0.035         28       27.371       0.340         2       29       0.197       0.003         3       0.002       0.012         3       31       -20.807       0.008         2       32       0.267       0.008 <td>1 50</td> <td>6</td> <td>1.573</td> <td>0.009</td> <td></td>	1 50	6	1.573	0.009	
1	8	7	0.064	0.001	
10 0.326 0.939 11 0.612 0.008 11 12 0.535 0.003 11 14 0.222 0.016 15 0.047 0.004 16 0.140 0.010 17 -0.003 0.002 18 -0.053 0.013 19 0.948 0.027 21 1.600 0.022 21 2.434 0.023 11 22 0.166 0.048 22 0.166 0.048 24 0.063 0.018 25 0.013 0.024 26 0.053 0.024 27 1.447 0.035 28 27.371 0.340 29 0.197 0.003 20 0.002 0.012 3 31 -20.807 0.008 2 33 0.042 0.012 3 34 -0.094 0.011 5 35 -0.015 0.003	$i^{-C}$	6	5.027	0.039	
11 0.812 0.008 1 12 0.535 0.003 1 14 0.222 0.018 2 15 0.047 0.004 1 16 0.140 0.010 2 17 -0.003 0.002 2 18 -0.053 0.013 2 19 0.948 0.027 3 20 1.800 0.022 7 21 2.434 0.023 6 22 0.186 0.048 2 24 0.063 0.018 3 25 0.013 0.024 3 26 0.053 0.024 3 26 0.053 0.024 3 27 1.447 0.035 28 27.371 0.340 29 0.197 0.003 5 30 0.002 0.012 3 31 -20.807 0.000 2 32 0.287 0.008 2 33 0.042 0.012 3 34 -0.094 0.011 5 35 -0.015 0.003	1	9	125.738	1.402	
12 0.535 0.003 1 14 0.222 0.016 2 15 0.047 0.004 1 16 0.140 0.010 2 17 -0.003 0.002 1 18 -0.053 0.013 2 19 0.948 0.027 3 20 1.600 0.022 2 21 2.434 0.023 3 22 0.166 0.048 2 24 0.063 0.018 3 25 0.013 0.024 3 26 0.053 0.020 27 1.447 0.035 28 27.371 0.340 29 0.197 0.003 29 0.197 0.003 20 0.267 0.008 20 0.042 0.012 3 3 0.042 0.012 3 34 -0.094 0.011 5 35 -0.015 0.003		10	0.326	0.039	
14 0.222 0.018  15 0.047 0.004  16 0.140 0.010  17 -0.003 0.002  18 -0.053 0.013  19 0.948 0.027  20 1.600 0.022  7 21 2.434 0.023  1 22 0.166 0.048  2 24 0.063 0.018  2 25 0.013 0.024  2 26 0.053 0.020  2 7 1.447 0.035  2 8 27.371 0.340  2 9 0.197 0.003  2 9 0.197 0.003  3 0.002 0.012  3 31 -20.807 0.000  2 32 0.267 0.008  2 33 0.042 0.011  3 4 -0.094 0.011  5 0.003	1.53	11	0.812	0.008	
15 0.047 0.004 16 0.140 0.010 2 17 -0.003 0.002 2 18 -0.053 0.013 2 19 0.948 0.027 3 20 1.600 0.022 7 21 2.434 0.023 1 22 0.166 0.048 2 24 0.063 0.018 2 25 0.013 0.024 3 26 0.053 0.020 27 1.447 0.035 28 27.371 0.340 29 0.197 0.003 5 30 0.002 0.012 3 31 -20.807 0.000 2 32 0.267 0.008 2 33 0.042 0.012 3 34 -0.094 0.011 5 35 -0.015 0.003	1	12	0.535	0.003	
16 0.140 0.010  17 -0.003 0.002  18 -0.053 0.013  19 0.948 0.027  20 1.600 0.022  21 2.434 0.023  1 22 0.166 0.048  2 24 0.063 0.018  2 25 0.013 0.024  2 26 0.053 0.020  2 7 1.447 0.035  2 8 27.371 0.340  2 9 0.197 0.003  3 0.002 0.012  3 31 -20.807 0.000  2 32 0.267 0.008  2 33 0.042 0.012  3 34 -0.094 0.011  5 0.003	i	14	0.222	0.016	
17 -0.003 0.002 18 -0.053 0.013 19 0.948 0.027 20 1.600 0.022 21 2.434 0.023 22 0.166 0.048 24 0.063 0.018 25 0.013 0.024 26 0.053 0.020 27 1.447 0.035 28 27.371 0.340 29 0.197 0.003 20 0.002 0.012 3 31 -20.807 0.000 20 32 0.267 0.008 21 34 -0.094 0.011 3 35 -0.015 0.003	3	15	0.047	0.004	
18	1.00	1.6	0.140	0.010	
9       19       0.948       0.027         a       20       1.600       0.022         r       21       2.434       0.023         d       22       0.166       0.048         e       24       0.063       0.018         a       25       0.013       0.024         a       26       0.053       0.020         27       1.447       0.035         28       27.371       0.340         1       29       0.197       0.003         5       30       0.002       0.012         a       31       -20.807       0.000         a       31       -20.807       0.008         e       33       0.042       0.012         q       34       -0.094       0.011         b       35       -0.015       0.003	}	17	-0.003	0.002	
a     20     1.800     0.022       r     21     2.434     0.023       d     22     0.186     0.048       e     24     0.063     0.018       a     25     0.013     0.024       a     26     0.053     0.020       27     1.447     0.035       28     27.371     0.340       1     29     0.197     0.003       5     30     0.002     0.012       a     31     -20.807     0.000       0     32     0.267     0.008       e     33     0.042     0.012       1     34     -0.094     0.011       5     0.003     0.003	3 . 20	18	-0.053	0.013	
7 21 2.434 0.023  6 22 0.166 0.048  e 24 0.063 0.018  a 25 0.013 0.024  a 26 0.053 0.020  27 1.447 0.035  28 27.371 0.340  0 29 0.197 0.003  5 30 0.002 0.012  a 31 -20.807 0.000  b 32 0.267 0.008  e 33 0.042 0.012  1 34 -0.094 0.011  b 35 -0.015 0.003	P	19	0.948	0.027	
d     22     0.166     0.048       e     24     0.063     0.018       a     25     0.013     0.024       d     26     0.053     0.020       27     1.447     0.035       28     27.371     0.340       1     29     0.197     0.003       5     30     0.002     0.012       a     31     -20.807     0.000       0     32     0.267     0.008       e     33     0.042     0.012       1     34     -0.094     0.011       b     35     -0.015     0.003	à	20	1.600	0.022	
e 24 0.063 0.018  a 25 0.013 0.024  a 26 0.053 0.020  27 1.447 0.035  28 27.371 0.340  1 29 0.197 0.003  5 30 0.002 0.012  a 31 -20.807 0.000  a 32 0.267 0.008  e 33 0.042 0.012  1 34 -0.094 0.011  b 35 -0.015 0.003	7	21	2.434	0.023	
a     25     0.013     0.024       a     26     0.053     0.020       27     1.447     0.035       28     27.371     0.340       3     29     0.197     0.003       5     30     0.002     0.012       a     31     -20.807     0.000       c     32     0.267     0.008       e     33     0.042     0.012       q     34     -0.094     0.011       b     35     -0.015     0.003	1	22	0.166	0.048	
a     26     0.053     0.020       27     1.447     0.035       28     27.371     0.340       1     29     0.197     0.003       5     30     0.002     0.012       a     31     -20.807     0.000       0     32     0.267     0.008       e     33     0.042     0.012       q     34     -0.094     0.011       b     35     -0.015     0.003	ę	24	0.063	0.018	
27 1.447 0.035 28 27.371 0.340 2 29 0.197 0.003 5 30 0.002 0.012 a 31 -20.807 0.000 2 32 0.267 0.008 e 33 0.042 0.012 q 34 -0.094 0.011 b 35 -0.015 0.003	3	25	0.013	0.024	
28 27.371 0.340 29 0.197 0.003 5 30 0.002 0.012 a 31 -20.807 0.000 2 32 0.267 0.008 e 33 0.042 0.012 1 34 -0.094 0.011 b 35 -0.015 0.003	à	26	0.053	0.020	
1     29     0.197     0.003       5     30     0.002     0.012       a     31     -20.807     0.000       1     32     0.267     0.008       e     33     0.042     0.012       1     34     -0.094     0.011       b     35     -0.015     0.003		27	1.447	0.035	
5 30 0.002 0.012 a 31 -20.807 0.000 c 32 0.267 0.008 e 33 0.042 0.012 c 34 -0.094 0.011 b 35 -0.015 0.003		28	27.371	0.340	
a     31     -20.807     0.000       c     32     0.267     0.008       e     33     0.042     0.012       q     34     -0.094     0.011       b     35     -0.015     0.003	1	29	0.197	0.003	
32 0.267 0.008 e 33 0.042 0.012 g 34 -0.094 0.011 b 35 -0.015 0.003	5	30	0.002	0.012	
e 33 0.042 0.012 1 34 -0.094 0.011 5 35 -0.015 0.003	3	31	-20.807	0.000	
1 34 -0.094 0.011 b 35 -0.015 0.003	3	32	0.257	0.008	
5 35 -0.015 0.003	ę	33	0.042	0.012	
5 -0.015 0.003	1	34	-0.094	0.011	
		35	-0.015	0.003	
1 36 -0.075 0.014	1	36	-0.075	0.014	

37	3.532	9.731	
33	3.355	9.004	WHC-SD-WM-DP-025
27	30.531	0.442	Addendum 14 Rev 0
40	0.351	0.008	Addendam IT Nev o
‡2	0.013	0.017	
13	3.333	0.004	
3.1	-9.333	0.901	
45	-0.058	0.007	

entity 1: 2741 Sam #346371-6 | Identity 2: 10:1-50:1 | 11:58 AM January 23, 1992

-sk name : ALL SIM

aple Weight: 1.0000 Solution Volume: 1.00 -Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Ta	Hq	Sn	Si	Al
	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppb)	(ppb)	(ppb)
an	1.382	0.872	-17.106	-7.441	2434.783	16.998	3237.416	52025.976
.D.	6.098	0.564	12.078	18.622	562.283	0.136	25.598	582.580
R.S.D.	441.300	76.165	70.608	250.279	23.094	0.802	0.791	1.120
m	8	Zn	Cu	Li	€o	Ni	La	٤u
	-	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)
7.75	(ppb)	8.19 <b>4</b>	108.315	21.486	13.456	47.052	4.076	0.303
230	434.633 55.124	0.670	0.746	1.579	0.944	2.478	6.225	0.849
.p: ~~		8.178	0.689	7.347	7.018	5.286	152.733	279.696
R.S.D. : ***/>	12.883	8.1/8	7.007	1.341	7.210	7.100	1021790	
	Fe	Ca	Cr	Нd	Ce	Sa	8 a	. ?
in.	(dqq)	(ppb)	(ppb)	(ppb)	(ppb)	(699)	(6g6)	(496)
	303.131	219.095	1014.741	-26.009	-0.753	-15.779	1.261	9964.324
	8.796	3.735	9.602	21.584	52.162	72.277	1.233	242.486
REED.	2.902	1.705	0.946	82.986	6931.144	458.064	97.855	2.434
2	S	ňq	As	Na	No	Se	ÂĢ	Pb
	(ppb)	(ddd)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
630	31577.026	37.912	-9.935	-12948.031	82.594	57.603	0.947	-19.319
·ha	392.557	0.633	15.855	0.000	2.375	34.598	3.368	5.433
Ŕ.S.D.	1.243	1.869	159.589	0.000	2.876	60.064	348.390	28.124
~								
	Τi	βď	9	Ĭ,	Ħn	5 b	¥	Ne
	(dgg)	(ppb)	(ppb)	(6;3)	(ppb)	(ppb)	(ppb)	(pph)
530	-0.181	25.322	728.721	183783.710	4.333	29.423	10.656	0.808
.9.	1.845	2.677	6.774	2870.228	0.558	103.540	2.631	0.108
R.S.D.	1021.029	10.573	0.930	1.453	12.873	351.895	24.686	13.323
	71							
	(699)							
237	19,456							
. D .	63.809							
R.S.D.	327.965							

orrer' 'Counts Statistics 12:05 PM January 23, 1992 '

: ALL_SIN

eight: 1.0000 Solution Volume: 1.00

1	31	0.331	1.107	1110 60 111 00 605
2	32	1.501	0.013	WHC-SD-WM-DR-025
ę	33	0.155	0.009	Addandum 14 Rev 0
7	34	1.188	0.007	
<u> </u>	35	1.259	0.009	
1	3.5	3.133	0.042	
1	37	11,231	0.091	•
	38	2.281	0.032	
	37	0.783	0.014	
7	40	4.300	0.052	
3	15	0.085	2.312	
	43	0./15	0.008	
5	44	2.490	0.027	
ì	45	0.011	0.002	

Jentity 1: CCV-2 Identity 2: CCV 12:56 PM January 23, 1992

ask mame : ALL_SIM

saple Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

0	2r	Sr	₿i	Ta	Hq	Sn	Si	A1 —
1.5	(ppb)	(ppb)	(¢qq)	(ppb)	(ppm)	(ppb)	(ppb)	(ppb)
ean	-18,004	-1.033	-276.483	-30,191	-1195.652	-9.207	364.968	426.478
. p*. ~	2.065	0.081	3.200	3,551	2208.743	2.008	3.387	5.036
R.S.D.	11.469	7.792	1.157	11.763	184.731	21.807	0.928	1.181
	¥	In —	Cu	Li	0	Ni	La	ξu
* .	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(dad)	(ppb)
200	13.998	446.587	478.363	-3.191	492.997	476.781	6.792	-2.536
₽.	19.585	3.445	3.371	0.655	4.878	4.818	4.075	0.516
R. S. D.	139.910	0.771	0.705	20.518	1.010	1.011	59.795	20.352
25%	F e	63	Cr_	Nd	Ce	Sa	li -	P
	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(6qq)
30	470.495	446.905	497.217	-75.308	-136.471	-214.320	486.776	-48.536
Dan	1.308	4.053	6.297	5.592	23.713	24.976	3.570	32.777
F.3.D.	0.278	0.907	1.266	7.426	17.376	11.654	0.733	67.531
+	\$	Ma	As	Na	Ko	Se _	Ag	Pb
	(ppb)	(ppb)	(604)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
ean	-7.001	490.220	458.128	435.009	472.985	505.609	503.620	476.918
D.	2.884	3.848	18.606	4.559	5.575	23.939	2.067	16.599
R.S.D.	41.193	0.785	4.061	1.048	1.179	4.735	0.410	3.430
	11-	Cd	B _	1 _	Mn 🧠	56~	٧	9 e
	(ppb)	(pph)	(696)	(ppb)	(ppb)	(ppb)	(dqq)	(596)
e a n	482.611	476.931	451.564	4840.536	481.393	426.580	484.534	466.013
. P.	5.893	3.829	8.453	82.476	5.238	68.527	4.012	4.793
R.S.D.	1.180	0.803	1.429	1.704	1.088	16.064	0.828	1.071

(ppb) 502.336 848 14.064 1. R.3 2.300 prrected Counts Statistics 12:53 PM January 23, 1992

e: ALL_SIM

nht: 1.3000 Solution Volume: 1.00 o-Pa. Integrations: 3 Off-Peak Integrations: 1

Galyte C	hannel	Hean Toulses	S.D. Kpulses	ZR.S.D. Kpulses
r	1	0.008	0.001	
ir	5	-0.308	0.003	
· i	3	-0.055	0.031	
. 3	5	0.007	0.097	
:Q	6	1.514	0.007	
în	7	0.015	0.006	
i	8	0.096	0.005	
4	7	0.312	0.013	
:	10	-0.019	0.045	
ŋ	11	0.050	0.004	
G	12	0.047	0.009	
i	14	-0.015	0.008	
0	15	-0.005	0.017	
i _	16	-0.106	0.006	
à	17	-0.003	0.001	
u. ~	13	-0.091	0.003	
e .	17	-0.009	9.007	
a personal	20	0.203	9.001	
г	21	-0.019	0.001	
نبرا	22	-0.010	0.076	
	24	0.015	0.005	
	25	-0.031	0.005	
dans	26	-0.017	0.005	
	27	9.020	0.002	
1	28	0.024	0.009	
Ġ	29	0.007	0.000	
-	20	-0.013	0.009	
3	31	0.052	0.010	
3~>	32	0.006	0.005	
6	33	-0.050	0.010	
1	34	-0.122	0.004	
5	35	-0.005	0.006	
ì	36	-0.114	0.003	
d d	37	-9.084	0.010	
	28	0.006	0.003	
	37	-0.071	0.004	
n	40	-0.004	0.004	
Ъ	42	0.019	0.009	
	43	0.022	0.003	
2	44	-0.008	0.001	
i	45	-0.058	0.004	

dentity 1: CCB-2 Identity 2: CCV 12:59 PM January 23, 1992 ask name : ALL_SIM

ht: 1.0000 Solution Volume: 1.00 integrations: 3 Off-Peak Integrations: 1

	Zr	<b>\$</b> 7	Ji	13	lla.	ទីវិ :	\$i	31	WHC-SD-WM-DP-025 Addendum 14 Rev 0
	(605)	(600)	(5)3)	(656)	[303] -	(-15) -	(355)	(1)))	Muderiadii 17 No. 1
· o y U	-16,478	-1.302	-35.306	-5.527	-1413.543	5.272	-23.119	-75.137	
	2.529	0.123	32.103	1.611	443.726	1.090	3.322	3.230	
£.	3.209	9.149	38.544	23.489	31.415	24.831	14.331	5.296	
	¥	7 s.	٤٤	11	Ĉ o	31	£3	ξĦ	
	(dag)	1559}	(ppb)	(604)	(ppb)	(609)	(900)	(694)	
ėıų	-47,072	-41.751	-4,873	-2.314	1.190	-11.522	4.075	-2.153	
.1.	63.110	0.322	1.983	0.767	3.743	1.514	4.798	0.209	
. R.S.D.	131,070	0.767	40.675	27,415	334.043	13.143	115.455	7.544	
	Fe	C-3	Cr	Нб	Ce	53	33	F	
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	
591/	-9.806	-15.468	-11.719	-103.260	-138.356	-147.809	-2.989	64.747	
.D.	2.225	0.097	0.483	34.223		14.790	0.275	13.871	
£.S.D.	22.671	0.629	4.124	33.142	9.215	10.141	9.203	21.424	
	S	Na	Ås	Из	Мo	Se	Ag	Pb	
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	
530	1.751	-3.652	-29.244	-46.999	0.000	20.018	-8.142	-1.812	
.}	10.477	0.000	10.971	6.277	1.624	28.756	1.323	9.975	
R.5.D.	220.501	0.000	37.515	13.355	7215839.785	143.649	16.247	550.604	
10	Ti	Cd	P	K	än	5 b	٧	Ře	
	(ppb)	(bbp)	(694)	(699)	(ppb)	(ppb)	(ppb)	(ppb)	
₹ <b>8</b> 43	-5.510	-0.560	3.116	-224.710	-1.027	66.197	3.013	-0.062	
Ι.	0.359	0.437	0.528	21.219		. 47.747	1.749	0.187	
RS.D.	6.506	78.085	16.888	9.443	42.635	75.149	58.031	300.105	
^	11								
er. *3	(daq)								
630	17.112								
.15.1	28.129								

orrected Counts Statistics 1:00 PM January 23, 1992

R.S.D. 164.382

ask name : ALL_SIM

smple Weight: 1.0000 Solution Volume: 1.00 c-Feak Integrations: 3 Off-Peak Integrations: 1

halyte C	hannel	Mean Xpulses	S.D. Ipulses	ZR.S.D. Kpulses
•	1	-0.033	0.007	
!	2	241.212	1.521	
i	3	-0.083	0.013	
3	5	0.005	0.005	
1	ó	1.526	0.010	
7	7	20.574	0.172	
1	8	0.074	0.003	
1	7	0.141	0.011	
	10	0.613	0.023	
a	11	108.143	0.620	
į.	12	20.565	0.124	

1	14	95.775	0.132	
3	15	40.254	0.230	WHC-SD-WM-DP-025
i	15	17.347	9.123	Addendum 14 Rev 0-
3	17	-0.006	0.001	
	18	-0.072	0.004	
	19	14.597	0.130	
3	20	55.633	0.346	
,	21	11.802	0.068	
d	22	0.273	0.018	
:	24	0.069	0.004	
9	25	-0.345	0.003	
à	28	150.126	1.065	
	27	0.171	0.007	
	28	0.122	0.008	
1	29	22.309	0.137	
3	30	-0.003	0.008	
3	31	15.889	0.058	
0	32	-0.009	0.006	
ē	22	0.407	0.012	
ı	34	1.063	0.005	
b	35	0.014	0.008	
1-	36	-0.116	0.005	
	37	220.579	1.079	
mary.	38	23.718	0.124	
	39	0.792	0.005	
17	40	47.099	0.253	
	42	0.856	0.006	
1,4,5	43	0.023	0.003 -	
ان ا	44	-0.008	0.000	
	45	-0.065	0.002	

igntity 1: SST1 STD 1848AC Identity 2: Direct 1:01 FM January 23, 1792

asole Weight: 1.0000 Solution Volume: 1.0 n-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	Ði	Ta	Яα	5n	Si	Al
7	(ppb)	(ppb)	(ppb)	(ppb)	(ppa)	(ppb)	(ppb)	(ppb)
30	-35,100	9708.517	-64.932	-6.590	-630.435	4858.878	-31.459	-146.359
. P.	3.302	81.220	13.343	3.375	653.260	40.495	2.016	4.396
R.S.D.	9.408	0.631	20.550	51.217	103.621	0.833	6.409	3.004
	¥	Zn	<b>63</b>	Łi	£o	Ni	La	Εu
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
9.31	821.203	9608.592	4757.472	9772.276	9507.369	4745.855	-10.856	-0.889
. D .	32.749	55.320	28.677	49.053	54.278	30.554	2.353	0.246
R.S.D.	3.988	0.576	0.603	0.502	0.571	0.644	21.852	27.701
	fe	Ca	Cr	На	Ce	Se	Ba	P
	(ppb)	(ppb)	(666)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
an	4764.765	9356.357	4935.892	-44.466	16.212	-1081.947 .	9764.398	1112.040
.D.	42,465	58.534	28.439	8.005	10.705	10.317	64.784	48.550
R.S.D.	0.891	0.626	0.576	18.003	86.028	0.954	0.566	4.366
	\$	Äq	As	На	Жo	Se	Àg	Pb
	(ppb)	(ppb)	(ded)	(998)	(ppb)	(ppb)	(ppb)	(ppb)

esa .3. 2.3.0.	34.942 7.107 25.982	1333.575 30.107 0.516	-13.323 7.333 83.172	97 (3.194 35.335 0.335	-4.758 1.743 33.155	243.394 - 39.300 - 15.317	338.372 1.133 0.339	33.203 11.013 33.177
	Ti	Cđ	3	X.	Хn	Sb	y	ĵę.
	(555)	(259)	(ppb)	(699)	(995)	(gpb)	(306)	(405)
E 3.5	-5.736	9270.923	4718.337	4399.574	4725.362	4633.146	3.245	-0.032
. 5 -	0.828	45.317	24.701	31.005	25.337	35.032	1.749	0.000
R.S.D.	10.911	0.489	0.523	0.821	0.538	0.748	53.889	0.000
e3N	13 (ppb) -34.458					-WM-DP-02 um 14 Rev		
.).	14.639							
R.S.D.	42.483							

orrected Counts Statistics 1:03 PM January 23, 1992

ask name : ALL SIM

angle Weight: 1.0000 Solution Volume: 1.00 n-Feak Integrations: 3 Off-Peak Integrations: 1

halyte		Mean Xpulses	S.D. Kpulsas	R.S.D. Kpulses
1		-0.132	0.006	
7 50	1 2.	0.024	0.014	
i	3	4.739	0.043	
3	5	-0.019	0.003	
140	6	1.539	0.017	
1	7	-0.049	0.023	
1 - %	8	0.014	0.004	
1	9	1.160	0.022	
756.9	10	-0.032	0.019	
3	11	0.227	0.006	
]	12	0.103	0.003	
1	14	-0.001	0.018	
;	15	-0.010	0.005	
10	16	-0.070	0.011	
ł	17	1.243	0.002	
1	18	76.403	0.183	
:	19	0.020	0.006	
ł	20	0.535	0.001	
	21	-0.007	0.010	
1	22	11.620	0.061	
:	24	1.814	0.007	
ı	25	1.751	0.010	
	26	-0.406	0.011	
	27	0.023	0.003	
	28	0.013	0.009	
	29	0.012	0.001	
	30	0.079	0.002	
	31	0.081	0.006	
	32	0.009	0.004	
	23	-0.053	0.005	
	34	15.903	0.068	
	35	2.500	0.028	

	33	-0,131	0.002	
-				
j	37	-0.037	0.023	WHC-SD-WM-DR-025
	13	-9.103	1.311	Addendum: 14 Rev O
	37	-0.049	0.009	Addendam, 14 YeA O
	÷ΰ	-0.007	0.002	
	42	-0,003	0.005	
	43	0.053	0.001	
5	44	-0.008	0.901	
]	45	-0.047	0.004	

Jentity 1: SST2 STD 2248AD Identity 2: Direct 1:04 PM January 23, 1992

ask name : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Feak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	Bi	Ta	Ra	5n	Si	Al
	(ppb)	(ppb)	(pph)	(ppb)	(pp2)	(ppb)	(ppb)	(ppb)
ean	-80.589	-0.027	4984.378	-21.899	217.391	-9.837	-70.838	277.072
.ħ.	2.604	0.545	45.122	1.914	1109.335	5.452	2.877	9.142
K.S.D.	3.231	2029.459	0.905	8.738	510.294	55.426	4.061	3.299
Ç	¥	Zn	C a	Łi	Co	Ni	La	Εn
1.4	(ppb)	(ppb)	(653)	(ppb)	(ppb)	(ppb)	(ppb)	(dåd)
890	-65.950	-25.179	8.202	-1.222	-0.079	-2.938	5078.915	4972.271
.0.	26.177	0.523	0.746	1.948	1.165	2.504	8.483	11.910
8-83D.	39.892	1.798	9.097	151.230	1481.415	85.239	0.167	0.240
20	Fe	Ca	€ <i>r</i>	Nd	Ce	Sa	. 8a	P
	(699)	(ppb)	(ppb)	(ppb)	(ppb)	(99b)	(ppb)	(ppb)
÷	-0.108	40.767	-6.557	3123.614	1949.211	5161.193	-26.735	83.242
· Valera	1.800	0.174	3.993	27.453	18.541	29.831	0.679	22.295
R.S.D.	1660.344	0.426	178.03	0.536	0.375	0.578	2.540	26.784
0.1								
, ,,	\$	₹g	As	На	off	Se	Αq	Pb
HOPES	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	{ppb}	(ppb)
237	-3.827	-2,434	88.576	-29.269	0.844	10.132	5083.525	4717.270
. 3.2	9.866	0.127	2.980	3.517	1.141	12.818	21.569	51.364
R.S.D.	111.772	5.094	3.365	12.018	135.205	126.506	0.424	1.039
	Ti	£đ	В	K	Ħn	56	V	B e
	(ppb)	(ppb)	(ppb)	(ppb)	(596)	(dqq)	(ppb)	(ppb)
еая	-8.266	-0.686	1.392	-91.785	-1.402	-58.834	27.796	-0.124
. 0 .	0.282	1.133	2.182	54.824	0.153	31.847	0.695	0.108
R.S.D.	3.413	169.526	156.710	59.731	10.942	54.131	2.500	86.418
	11							
	(ppb)							
33D	94.467							
.).	30.653							
R.S.D.	32.448		,					

ounts Statistics 1:05 PM January 23, 1992

: ALL_SIM

NHC-SD-WA			
Addendum	14	Rev	Û

ilyle Ch	Iseac	Asan Epulins	S.D. Ibalasa	28.8.1. (pulses
	1	22.375	0.145	
	2	0.010	0.001	
	3	-1.322	0.020	
	5	15,716	0.055	
	6	26.589	0.077	
	7	0.070	0.046	
	ê	12.356	9.277	
	7	12.037	9.351	
	10	31.069	0.171	
	11	0.177	0.015	
	12	0.056	0.005	
	14	-0.020	0.006	
	15	-0.061	0.017	
	15	0.287	0.021	
	17	-0.009	0.001	
	18	-0.158	0.004	
	19	0.015	0.011	
<u>^</u>	20	0.152	0.003	
18	21	0.015	0.003	
•	22	-0.127	0.080	
3	24	0.031	0.004	
' '	25	-0.076	0.004	
4 14	26	-0.006	0.004	
	27	1.477	0.008	
<u>ې</u>	28	4.601	0.053	
p	27	0.012	0.000	
	30	3.958	0.014	
, m	31	0.128	0.014	
	32	31.597	0.100	
<b>\1</b>	33	1.491	0.014	
	34	-0.081	0.022	
PERMIT	35	-0.075	0.005	
~	36	36.461	0.178	
•	37	-0.230	0.069	
7	38	0.030	0.013	
	39	-0.058	0.012	
	40	0.019	0.005	
	42	0.003	0.011	
	43	14.204	0.086	
	44	53.137	0.301	

dentity 1: SST3 STD 3848AD Identity 2: Direct 1:06 PM January 23, 1992

ask name : ALL_SIM

smple Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr	Sr	Зi	T a	Hq	Sn	Si	Al
	(dag)	(ppb)	(ppb)	(699)	{ppm}	(ppb)	(ppb)	(ppb)
6.10	10466.317	-0.604	-1886.509	10014.671	1840434.793	18.414	8206.837	4795.381
.0.	86.272	0.023	21.258	35.385	6354,709	10.845	59.648	21.011

2.5.7.	9.533	3.347	1.127	1.353	0.337	58,895	0.317	0.133	70.005
 2.5.5.	3 (588) 43798.553 212.200 0.552	2a (,,5) -30.642 1.337 4.364	Cu (apà) -2.361 1.097 33.332	Li (pob) -3.157 0.577 18.343	Co (ppb) -12.118 4.054 33.535	Hi (ppd) 82.102 4.779 6.064	Li (200) -20.375 4.706 23.095	Eu (998) -5.503 0.250 4.000	WHC-SD-WM-DP-025 Addendum 14 Rev 0
:in .J. R.S.D.	Fe (ppb) -1.761 3.645 185.892	Ca (ppb) -24.013 0.491 2.043	Cr (ppb) 2.651 1.256 47.365	Nd (ppb) -156.085 36.054 23.099	Ce (ppb) -92.174 10.195 11.060	5e (ppb) -341.387 10.459 3.064	9a (pob) -2.338 9.229 9.496	P (ppb) 10306.496 52.056 0.505	
ean .p. R.S.D.	\$ (ppb) 5288.639 61.746 1.168	Hq (ppb) -2.557 0.000 0.000	As (ppb) 5092.307 18.059 0.355	Na {ppb} 0.006 8.572 150784.585	Mo (ppb) 9996.833 31.639 0.316	Se (ppb) 4500.392 41.978 0.933	Aq (ppb) 4.991 6.837 136.976	Pb (ppb) -128.587 8.559 6.656	
20.000 .0.000 R.S.D.	Ti (ppb) 4950.452 24.118 0.487	Ed (ppb) -8.654 2.703 43.367	B (ppb) 7.955 2.502 31.458	X (ppb) -148.177 73.256 49.438	An (ppb) 0.385 0.450 119.400	5b (ppb) 5.521 60.509 1096.084	y (ppb) 9856.937 59.841 0.607	%e (ppb) 9914.370 56.231 0.567	
ا خمارة: فيمي	71 (ppb) 5024.063 30.653 0.610				:				,

arrected Counts Statistics 1:10 PM January 23, 1992

ASPAR : ALL SIN

saple Weight: 1.0000 Solution Volume: 1.00 3-Peak Integrations: 3 Off-Peak Integrations: 1

valyte Channel Mean Kpulses ZR.S.D. Kpulses S.D. Kpulses _____ 0.009 0.006 1 0.010 0.002 2 0.012 3 -0.248 0.008 5 -0.001 1.526 0.016 6 0.006 0.015 7 0.719 0.002 8 0.011 9 1.551 10 0.074 0.022 5.751 0.035 11 0.015 2.218 12 -0.002 0.008 14 0.020 15 2.154

	15	2.022	0.001	
*	17	-0.005	3.301	
7	13	-0.335	5.307	WHC-SD-WM-DP-025
÷	19	1.563	0.003	Addendum 14 Ray 0
	20	3,075	0.017	
3	21	1.242	0.008	
			9.931	
;	22	0.023		
3	24	0,026	9.002	
ş	25	-0.038	0.003	
1	25	8.349	0.051	
	27	0.011	0.003	
	28	0.012	0.013	
1	27	2.370	0.016	
:	30	0.401	0.007	
1	31	0.880	0.029	
Ĵ	32	1.560	0.007	
ō	33	0.155	0.005	
1	34	1.556	0.004	
5	35	0.255	0.006	
1	36	3.653	0.025	
f	37	11.993	0.167	
	38	2.394	0.021	
	37	0.794	0.009	
n	40	5.030	0.040	
b	42	0.085	0.004	
	43	0.749	0.004	
à	44	2.630	0.023	
100	45	010.0	0.003	

CCV-3 Identity 2: CCV

1:10 PM January 23, 1992

ask_game: ALL_SIM
smple Weight: 1.0000 Solution Volume: 1.00
1-Feak Integrations: 3 Off-Peak Integrations: 1

	Ir	Sr	Bi	Ta	Hg	Sn	Si	A1 _
	(ppb)	(dee)	(dad)	(ppb)	(ppa)	(ppb)	(ppb)	(ppb)
an C	-15.714	-0.577	-238.083	-10.205	-630.435	3.148	394.447	439.355
.D.	2.604	0.061	12.741	5.311	1044.157	3.504	1.143	4.569
RSID.	16.570	10.657	5.351	52.048	165.625	111.327	0.290	1.040
	¥	Zn —	Ca	Li	Co_	Ni _	la	Eu
	(pph)	(pob)	(ppb) ~	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
590	81.770	467.032	499.020	-1.290	510.775	495.856	-5.433	-1.758
.0.	31.287	3.127	3.419	0.808	4.770	2.137	4.075	0.455
8.3.D.	38.262	0.670	. 0.685	62.663	0.934	0.431	75.007	25.925
	Fe _	Ca -	Cr _	Hd	Ce	Sı	ři	P
	(ppb)	(ppb)	(aph)	(ppb)	(dqq)	(699)	(ppb)	(ppb)
÷ a ก	504.273	469.829	516.330	-91.955	-106.312	-166.670	507.270	4.637
.0.	0.823	3.219	2.691	14.125	4.897	9.597	3.093	20.022
R.S.D.	0.163	0.685	0.521	15.360	4.607	5.158	0.608	431.741
	S	Mq	As _	На	Жо	Se —	Aq _	Pb
	(ppb)	(ppb)			(ppb)	(ppb)	(dqc)	(ppb)
591	-14.129		505.005	464.902	491.661		525.120	467.070
.1.	20.827	3.416	3.780	17.779	2,215	13.945	1.146	11.644

3.5.5.	147.103	0.664	1.739	3.324	0.451	2.773	0.218	2.432
	ĭ i	83	3 —	*	in_	5b 🔑 📑	7 -	35 🦳
	(556)	(000)	(605)	(595)	(\$99)	(101)	(996)	(556)
	504.968	506.947	477.947	5001.653	504.420	428.417	508.159	472.006
	3.145	7.035	4.213	51.387	1.062	19.338	2.308	4.312
٤.٥	0.382	1.338	0.332	1.027	0.305	4.542	0.553	0.878
.,,,,,					WHC-SD-WI	M-DP-025		
	11					14 Rev 0		
	(556)				,			
280	495.304							
.0.	18.506							
9.S.D.	3.758							

errected Counts Statistics 1:12 FR January 23, 1992

ask name : ALL_SIM

smple Weight: 1.0000 Solution Volume: 1.00 a-Peak Integrations: 3 Off-Peak Integrations: 1

			S.D. Kpalses	
	1	-0.001	0.003	
	2	-9.008	0.001	
	3	-0.071	0.022	
Single State	5	-0.004	0.012	
B. (%)	6	1,526	0.023	
Na	7	-0.028	0.038	
	8	0.098	0.003	
	9	0.412	0.015	
-	10	-0.061	0.006	
1	11	0.041	0.005	
573	12	0.052	0.005	
	14	-0.015	0.006	
	15	-0.017	0.015	
n ₁	16	-0.087	0.010	
	17	-0.006	0.001	
0	18	-0.085	0.004	
	19	-0.007	0.003	
i	20	0.038	0.001	
	21	-0.005	0.002	
1	22	0.125	0.055	
	24	0.021	0.008	
;	25	-0.032	0.003	
	26	-0.015	0.007	
	27	0.016	0.002	
	28	0.005	0.005	
	29	0.001	0.001	
:	2.0	-0.007	0.005	
}	31	0.040	0.022	
	32	0.014	0.004	
· •	33	-0.049	0.007	
	34	-0.110	0.003	
· }	35	-0.011	0.006	
	36	-0.110	0.004	
	37	-0.066	0.039	

	23	-0.309	).320	WHC-SD-WM-DP-025
	37	-3.373	0.:03	Addendum 14 Rev 0
,	10	-0.007	2.:07	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
'n	12	-0.003	0.010	
	43	0.025	0.002	
	41	-3.007	0.001	
	15	-0.051	0.004	

dentity 1: 003-3 | Identity 2: 000 | 1:12 PM January 23, 1992

ask mage : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	Ir	Sr	ði	Ia	На	Sn	Si	\$1
	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(dqq)	(ppb)	(ppb)
9 3 8	-20.599	-1.315	-53.062	-12.331	-630.435	-4.879	-15.180	-33.924
.D.	1.399	0.040	22.761	7.734	1467.512	8.947	1.905	6.249
R.S.D.	6.792	3.061	42.895	62.718	232.778	183.382	12.551	18.422
	¥	Zn -	€u	Li	£o	Ni	La	Eu
0	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)
e3# · ~	-106.488	-42.785	-3.635	-2.580	-1.731	-7.150	-8.150	-1.734
. 2.	7.790	0.412	1.145	0.622	3.456	2.412	2.353	0,246
R.75.70.	7.315	0.364	31.496	24.119	197.648	33.732	28.869	14.197
en 1.0	Fp	. Ca	Cr	Hd	. Ce	So :	Pà	P
N.5	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Ean	-8.934	-43.291	-5.580	-42.530	-121.391	-149.794	-2.907	39.316
.0	0.823	0.077	0.371	24.523	22.679	10.317	9.406	16.017
F.S	9.208	0.223	15.613	57.661	18.592	6.887	13.969	40.740
53								
	\$	Ħq	As	Na	No	Se	Αq	Pa
له جميد	(ppb)	(ppb)	(ppb)	(ppb)	(apb)	(ppb)	(ppb)	(ppb)
230	-17.327	-5.040	-21.502	-54,215	2.321	22.515	-4.223	-12.678
.P.	5.290	0.127	6.364	13.611	1.198	20.868	0.953	9.975
۶ مهنگ	30.533	2.510	29.596	25.108	51.626	92.885	22.571	78.676
0	Ti.	63	3	Ķ	Ħn	53	¥	l e
-	(ppb)	(dad)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
a a a	-4.923	0.168	0.066	-220.682	-1.309	-86.414	5.078	0.062
.0.	0.513	1.642	4.019	33.641	0.703	54.420	1.061	0.108
R.S.D.	10.420	975.779	6062.381	15.244	53.733	62.976	20.820	173.145
	71							
	(pph)							
930	47.585							
. Ī.	28.420							
R.S.D.	59.726							

orrected Counts Statistics 1:14 PM January 23, 1992

ask nat . ALL_SIM

saple it: 1.0000 Solution Volume: 1.00 1-Peak Integrations: 3 Off-Peak Integrations: 1

alyta Channel	Nepa Aprilsas	3.7. Xpalses	th.S.D. Ipulses	MHC-SD-MM-DP-025 Addendum 14 Rev-(
1	0.318	0.003		·
2	0.012	0.003		
j	-0.107	0.013		
5	-0.033	0.067		
É	1.618	0.006		
7	0.097	0.053		
8	2.682	0.003		
7	270.799	1.331		
10	0.546	0.026		
11	1.213	0.004		
12	0.210	0.001		
14	0.032	0.005		
15	-0.005	0.013		
16	0.156	0.009		
17	-0.003	0.001		
18	-0.097	0.003		
19	1.654	0.010		
20	2.032	0.003		
71	3.155	0.018		
22	0.082	0.022		
1.00 24	0.003	0.004		
25	-0.050	0.005		
26	0.019	0.003		
27	1.508	0.026		
28	12.374	0.075		
	0.204	0.001		
29 30	-0.010	0.008		•
31	-31.466	0.000		
32	0.471	0.003		
23	0.060	0.006		
7.1	-0.116	0.001		
<b>○!</b> 35	-0.030	0.005		
36	-0.056	0.087		
37	0.800	0.035		
**	3.790	0.041		
39 39	63.284	0.094		
O 40	0.076	0.002		
42	0.001	0.003		•
43	0.030	0.004		
44	0.001	0.001		
45	-0.063	0.003		

dentity 1: R942 Sam #3AP891-7 | Identity 2: 10ml-50ml | 1:15 PM January 23, 1992

ask name : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	17	 57	3i	Ta	Нg	Sn	Si	Al
	(dqq)	(dac)	(696)	(ppb)	(ppa)	(eqq)	(666)	(600)
948	-11.593	-0.510	-90.765	-30.829	5413.043	24.788	1589.985	112284.909
. 8 .	1.472	0.106	18.773	4.600	370.842	12.548	1.980	552,811
	12.698	20,883	20.684	14.920	6.851	50.623	0.117	0.492

9	27	375	0.008	
	28	11.345	0.033	WHC-SD-WM-DP-025
4.,	2?	0.133	0.001	Addendum 14 Rev 0
4.5	39	-0.005	0.006	
¥á	31	-31.478	0.000	
₹5	7.0 02	0.130	0.007	
÷e	33	0.053	0.010	
4 -	3.4	-0.118	1.004	
35	35	-9.015	0.006	
	34	-0.082	0.909	
0.8	37	0.738	9.034	
9	38	3,713	0.015	
(	39	61.333	0.115	
10	40	0.055	0.003	
âb	42	0.018	0.020	
1	43	0.032	0.001	
3e	44	0.001	0.001	
11	45	-0.067	0.005	

Identity 1: 8945 Sam #3AP991-10 Identity 2: 10ml-50ml 1:45 PM January 23, 1992

Task hame : ALL SIM

Sample Weacht: 1.0000 Solution Volume: 1.00 On-Peak Integrations: 3 Off-Peak Integrations: 1

Sn Sr Нą Zr Bi Tà Si A1 (dgg) (ppb) (dgg) (opb) (pps) (dgg) (ppb) (dag) -0.013 -5.182 -66.677 -27.427 34.231 Mean. 6086.957 2026.575 110549.090 3000 0.264 0.152 2.180 0.974 554.667 8.630 9.240 - 656.603 I Rec 5.102 3.270 3.553 1136.114 9.112 25.211 0.456 0.594 ¥ Zn Đα Li CO Ni Là Εu (spb) (dgg) (ppb) (dgg) (ppb) (ppb) (ppb) (apb) SERIO I 784.409 61.351 30.871 4.073 3.856 36.085 8.151 -1.041 3.5. 25.025 0.258 0.696 0.294 0.894 3.044 2.353 0.338 0.417 2,258 : R.S.D. 3.190 7.217 23.179 8.435 28.866 32,475 Fa Ca C٢ Nd Сe Sa (600) (ppb) (apb) (ppb) (ppb) (ppb) (ppb) (apb) 394.829 1283.499 10847.472 83.029 -98.002 -70.497 -148.802 0.366 3.D. 4.087 0.867 3.798 24.760 9.930 1.719 0.313 52.516 1 R.S.D. 4.923 0.220 0.296 25.468 14.085 1.156 85.522 0.484 ŝ Мq Å5 Na. Bo Se Pb ÂQ (ppb) (ppb) (ppb) (ppb) (ppb) (ppb) (ppb) (opb) 34.990 29.182 Mean 13649.624 -18.863 -19546.674 150.948 -19.319 -6.659 0.127 3.0. 44.115 7.848 0.000 2.289 30.148 1.284 11.310 0.323 7 R.S.D. 0.362 41.505 0.000 1.517 103.310 19.284 58,545 T: Cd 8 1 Sb Ų (dac) (dgg) (ppb) (spb) (dad) (dab) (225) (dgg) -2.933 36.050 373801.948 Mean. 700.514 4.611 60.581 9.962 3.109 1.432 3.5. 1.230 697.963 0.285 107.575 0.802 0.108 : R.S.D. 3.972 0.444 60.492 5.758 0.187 177.279 8.054 6.928

> T 1 (dag)

-25.334 1243 WHC-SD-WM-DP-025 Addendum 14 Rev-0 3.9. 35,315 1 3.3.0. 30.747

corrected Counts Statistics 1:00 PM January 22, 1992

Task bame : ALL_SIM

Sample weight: 1.0000 Solution Volume: 1.00 On-Peak Integrations: 3 Off-Peak Integrations: 1

011 7 C 4 f.			ax introductions :	
Analyte		Mean Ipulses		ZR.S.D. Xpulses
2r	1	0.026	0.008	
Sr	2	0.014	0.011	
Bi	3	-0.055	0.010	
13	5	0.015	0.004	
Hq	6	1.521	0.008	
Sn	7	-0.010	0.028	•
Si	8	0.699	0.013	
Al	9	48.798	0.324	
10	10	0.082	0.015	
Zn	11	1.667	0.006	
Cú,·~·	12	0.633	0.007	
Li	14	0.003	0.011	
Co 🦳	15	0.008	0.007	
Ni	15	-0.035	0.031.	
La	17	-0.002	0.002	
E	18	-0.068	0.015	₹ •
Fp	19	0.094	0.013	
	20	1.522	0.014	
	21	0.577	0.006	
Nd Ta	22	0.176	- 0.094	
S	24	0.035	0.018	,
33	25	-0.016	0.016	
å <u>a</u>	26	0.025	0.019	
P	27	0.280	0.003	
30	28	2.176	0.026	
#o	29	0.049	0.000	
NO.	30	-0.002	0.008	
Na	31	646.288	5.068	
Ħо	32	0.099	0.009	
Se	33	-0.018	0.007	
Αq	34	-0.097	0.004	
? 5	35	0.025	0.008	
Ti	36	-0.090	0.014	
Cd	37	0.068	0.041	
5	38	0.652	0.009	
K.	39	11.354	0.059	
Mr.	40	0.017	0.004	
3 b	42	-0.008	0.021	
V	43	0.020	0.005	
36	44	-0.008	0.001	
11	45	-0.063	0.012	

Diestity 1: 2945 Sia 15AP391-10 | Inequity 2: 10a1-50a1-2a1-15a1

Task asse : ALL SIN

Schoole december 1.0000 Solution Value: 1.00 So-Peak Lategrations: 3 Off-Peak Integrations: 1 1:51 PM Vancary 23, 1990 WHC-SD-WM-DP-025 Addendum 14 Rev 01

	Zr	5r	Зi	īà	Hą	Sa	Si	n i
	(pob)	(699)	(apb)	زفرن	(ppm)	(ppb)	(000)	(654)
19an	-7.330	-0.443	-35.957	-0.424	-913.043	-0,530	331.018	24045.433
8.0.	3.940	0.430	10.884	2.240	489,493	6.548	8.436	134.769
CR.S.D.	40.433	97.207	30.269	528,209	53.611	1040.126	2.227	0.372
	ź	Zn	Ca	11	Ĉs	Ni	Là	Εc
	(500)	(ppb)	(90b)	(690)	(apb)		(ppb)	
Mean	93.539	102.384	131.216	-0.815	4.249	5.327	6.792	-0.529
S.D.	21.419	0.523	1.545	1.098	1.652	7.341	7.058	ŭ.962
7 R.S.D.	22.899	9.511	1.178	134.823	38.888	137.800	103.915	194.972
	Fe	Ca	Cr	Нd	Ce	Sa	Bà	P
	(ppb)	(ppb)	(699)	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)
ñean	20.594	207.350	237.727	-21.279	-80.854	-102.144	-0.447	1870.345
S.).	4.113	2.331	2.691	42.330	50.023	46.520	1.178	22.295
7 R.S.9.	19.973	1.124	1.132	198.928	61.861	45.543	263.375	1.192
	9	Ħq	ÂS	Na	Mo	Se	Aq	25
٠٠٠,	(ppb)	(dqa)	(dqq)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Hean.	2487.101	5.552	-14.959	399641.703	29.219	58.910	-0.092	53.125
S.D.	29.466	0.000	10.347	3134.320	2.691	20.481	1.385	14.489
t #25.0.	1.185	0.000	69.166	9.784	9.211	34.766	1497.262	27.273
100	Ti	Cá	4 y - <b>B</b>	<b>K</b> :	ăn	Sb	Ą	Ъe
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
dea.	-2.304	5.798	131.518	68803.623	0.925	-82.737	1.160	-0.062
3.1.	1.903	1.702	1.691	355.250	0.364	113.091	3.284	0.187
Z R.S.D.	82.633	29.348	1.286	. 0.516	39.309	136.688	282.983	300.105
20/4	7]							

1 8.5.0. 478.766

Mean S.D. (ppb) -18.049

86.414

Corrected Counts Statistics 1:57 PM January 23, 1992

Task hame : ALL_SIM

Sample Weight: 1.0000 Solution Volume: 1.00 On-Peak Integrations: 3 Off-Peak Integrations: 1

Analyte Cha	nnel !	team Koulses	S.D. Kpulses	ZR.S.D. Kpuises
Žr	1	4.632	0.030	
Sr	2	50.424	0.176	
Bi	3	0.665	0.023	
Īà	5	2.950	0.050	
Нą	6	6.293	0.061	
Sa	7	4.101	0.126	
Si	8	5.958	0.042	

4.8	,	4.474	7++1¥	
4	10	5.241	0.977	WHC-SD-WM-DP-025
Ia	11	22.023	0.134	Addendum I4 Rev 0
:1	12	4.194	0.019	
Li	14	20.521	0.129	
	15	3.170	0.098	
	16	1.073	0.061	
La	17	0.257	0.001	
Etr	13	15.788	0.054	
Fg	19	3.184	0.034	
Ca	20	12.384	0.040	
Or	21	2.423	0.025	
Υd	22	2.634	0.089	
Ĉe	24	0.498	0.025	
រិ <b>ង</b>	25	0.346	0.024	
8a	26	33.483	0.109	
Þ	27	0.301	0.003	
3	28	0.976	0.029	
Mg .	29	4.631	0.031	
45	30	0.803	0.009	
49	31	5.945	0.022	
10	32	6.266	0.052	
ी <b>ट</b> पहलूक	33	0.330	0.015	
4g	31	3.451	0.032	
281 J.	37	0.525	0.021	
7 i	36	7.297	0.045	
94 ⁽¹⁾	37	44.315	0.350	
1 500	38	8.848	0.051	
( 7	39	0.196	0.019	
In page	40	9.628	0.047	
ib	42	0.192.	0.014	
*	43	2.832	0.024	
3	44	10.644	0.056	
4 203	45	0.058	0.020	

dentity 1: R946 Dig. STD 10-50 Identity 2: 1848AA.2848AB.3848AB

aBY⊋name : ALL_SIN

11.188

6.779

10.399

ample Weight: 1.0000 Solution Volume: n Pak Integrations: 3 Off-Peak Integrations: 1

Zr Sr li Ta Hq Sn Si Al (aph) (ppb) (pph) . (ppb) (pps) (ppb) (ppb) (pph) 718.437 930 2101.177 2028.741 1871.918 310260.870 969.887 3852.077 1331.350 7.089 .D. 13.554 24.095 31.759 4005.808 29.882 27.443 29.008 R.S.D. 0.645 0.349 3.354 1.697 1.291 3.060 0.712 2.179 ¥ 2 n Ēπ li Ĉο Ni La E 3 (ppb) (ppb) (ppb) (ppb) (ppb) (ppb) (ppb) (995) 940 9799.506 1919.822 1006.472 2088.553 1935.767 985.271 1063.598 1030.442 109.271 .D. 14.610 4.442 13.169 23.105 14.432 4.706 3.541 R.S.D. 1.242 0.761 0.441 0.631 1.194 1.465 0.442 0.344 Fe Ca Сr Hd C₽ Sa 35 P (ppb) (ppb) (ppb) (ppb) (pph) (ppb) (ppb) (3pb) 1034.042 2044.257 1010.337 1070.158 1227.313 974.944 2010.200 2015.995

39.775

71.805

71.367

8.632

22.295

1:58 PM January 23, 1992

- 1	ĵ	3.373	0.079	
	1)	3.231	1.377	WHC-SD-UM-DP-023
:	11	22.123	:31	Addendum 14 Rev 0
	12	4,204	0.317	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1	14	20.521	0.127	
2	15	3.199	0.399	
:	16	4.375	0.051	
1	17	0.257	0.001	
;	18	15.788	0.054	
?	19	3.194	0.034	
à	20	12.334	0.040	
	21	2.423	0.025	
j	22	2.634	0.089	
:	24	0.198	0.025	
1	25	0.346	0.024	
3	26	33.483	0.109	
	27	0.301	0.003	
	28	0.976	0.029	
3	29	4.631	0.031	
5	30	0.803	0.009	
3	31	5.945	0.022	
2	32	6.266	0.052	
ن يو	33	0.330	0.015	
1,,	34	3.451	0.032	
5	35	0.525	0.021	
14-5	36	7.237	0.045	
j`	37	44.315	0.350	
لأعز	38:	8.948	0.051	•
	39	0.196	0.019	•
11.	40	9.628	0.047	
)	42	0.192	0.014	
	43	2.832	0.024	
0	44	10.644	0.056	:
1	45	0.058	0.020	

tentity 1: R946 Dig. STD 10-50 Identity 2: 1B48AA.2B48AB.3B48AB 1:58 PM January 23, 1992 ask mage: ALL SIM samte Weight: 1.0000 Solution Volume: 1.00 1-Feak Integrations: 3 Off-Peak Integrations: 1

	7 r	\$r	Bi	Ta	Hą	Sn	Si	Al
	(dab)	(ppb)	(998)	(698)	(pps)	(ppb)	(ppb)	(pph)
-30	2101.177	2028.741	718.437	1871.918	310260.870	969.887	3852.077	1331.358
.0.	13.554	7.089	24.095	31.759	4005.608	29.682	27.443	29.008
۹.5.۲.	0.645	0.349	3.354	1.697	1.291	3.060	0.712	2.179
	¥	Zn	Ca	Łi	Co	Ni	La	Ea
	(ppb)	(dqq)	(pph)	(ppb)	(699)	(ppb)	(6gq)	(699)
30	8798.506	1719.822	1006.472	2088.553	1935.767	905.271	1953.578	1030.442
.0.	109.271	14.610	4.442	13.169	23.105	14.432	4.706	3.541
R.S.D.	1.242	0.761	0.441	0.631	1.194	1.465	0.442	0.314
	Fe	Ca	۲r	ЬK	Ce	Sa	Fa	?
	(ppb)	(695)	(pp))	(\$9\$)	{ppb}	(ppb)	(dqq)	(ppb)
ean	1034.042	2044.257	1010.337	1070.158	1227.313	974.944	2040.200	2015.795
.D.	11.186	6.799	10.399	39.775	71.605	71.367	8.832	22.295

3.3.).	1.:32	0.333	1.)27	3.717	5.334	7.371	1.325	1.108	WHC-SD-WM-DP-025
	\$	.73	45	111	70 -	62	. hg.	``)	Addendum 14 Rev 0
	(995)	(556)	(556)	(556)	(ppb)	(205)	(695)	(356)	
	1005.043	1307.536	1022.700	3577.541	1930.338	375.255	1127.117	759.270	
	32.929	6.340	11.634	13.793	18.507	40.458	10.029	37.219	
X.5	3.033	0.673	1.137	0.333	0.833	4.519	0.390	3.380	
	Ti	b3	1	X	ňn	Sb	¥	8 e	
	(699)	(609)	(695)	(ppb)	(ppb)	(ppb)	(000)	(0,00)	
: an	798.690	1354.921	1761.579	1388.516	965.388	1018.638	1955.037	1987.177	
.0.	3.122	14.702	10.106	111.791	4.746	73.204	15.925	10.354	
8.S.D.	0.613	0.738	0.574	8.051	0.492	7.677	0.881	0.521	
	71								
	(ppb)								
ean	835.195								
. D .	141.579								
R.S.D.	15.952								

S orrected Counts Statistics 2:02 PM January 23, 1992 ask name: ALL_SIM

saple-Weight: 1.0000 Solution Volume: 1.00 --Peak Integrations: 3 Off-Peak Integrations: 1

alyte		Mean Xpulses	S.B. Kpulses	ZR.S.D. Kpulses
	1	0.002	0.009	
	2	0.000	9.002	
: 100	3	-0.227	0.022	
3 - 455.4	5	-0.040	0.012	
101	6	1.510	0.013	
1 0 4	7	-0.031	0.020	
	8	0.692	0.005	
į	9	1.500	0.024	
3	10	0.007	0.037	
1 _	11	5.542	0.023	
9	12	2.148	0.011	
	14	-0.021	0.001	
	15	2.048	0.006	
	16	1.957	0.022	
	17	-0.006	0.001	
1	18	-0.088	0.003	
	19	1.490	0.026	
}	20	2.989	0.021	
	21	1.183	0.006	
1	22	0.054	0.051	
	24	0.020	0.008	
t	25	-0.046	0.002	
	26	8.034	0.044	
	27	0.014	0.005	
	28	0.031	0.007	
	29	2,272	0.014	
	30	0.388	0.004	
	31	0.998	0.011	

)	32	1.313	1.014	
,	33	0.113	0.001	WHC-SQ-WT-025
;	31	1.007	0.207	Addendum 14 Rev 0
j	35	0.247	0.010	Addition 14 Nev 0
1	36	3.310	0.025	
7	37	11.133	0.085	
	33	2.311	0.030	
	39	3.773	0.001	
7	40	4.321	0.029	
<u> }</u>	42	0.068	0.004	
	43	0.714	0.306	
?	44	2.173	0.913	
1	4.5	-0,001	0.004	

dentity 1: CCV-4 Identity 2: CCV 2:03 PM January 23, 1992

ask name: ALL_SIM
ample Weight: 1.0000 Solution Volume:
n-Peak Integrations: 3 Off-Peak Integration

	Zr	Sr	Bi	Ta	Hg	Sn	5i	Al
	(659)	(ppb)	(ppb)	(dpb)	(899)	(ppt)	(ppb)	(ppb)
A S	-17.073	-0.979	-216.090	-35.507	-1673.913	-5.430	376.498	418.170
. Ď. Š	4.070	0.084	22.680	7.338	820.634	4.604	2.976	9.821
.1 بکر .3	21.341	8.555	10.496	20.666	47.025	84.792	0.791	2.349
₩	¥	Zn~	Cu _	Li	C 0	Mi	la .	83
	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)
e MC	-12.837	448.373	482.850	-3.225	485.752	480.358	-9.508	-1.951
.1.	52.330	2.012	2.482	0.102	1.342	5.127	4.075	0.225
<b>₹</b> Ω	407.542	0.447	0.514	3.158	0.276	1.067	42.859	11.547
217%	Fe	Ca _	Cr_	Hd	Ce	Sæ	Ra -	P
ا الربع	(ppb)	(ppb)	(664)	(ppb)	(ppb)	(dqq)	(dad)	(ppb)
ean	480.193	451.711	491.357	-78.039	-124.219	-190.495	491.107	23.133
. <del>}</del>	8.413	3.475	2.691	22.918	22.854	4.549	2.663	31.783
8.5.0.	1.752	0.769	0.548	29.368	18.398	2.388	0.542	137.396
	9	Ng _	Ås	Жа _	ňo 🚤	Se -	Aq	Pb
0	(ppb)	(ppb)	(prb)	(ppb)	(dqq)	(ded)	(ppb)	(ppb)
ean	7.967	492.631	438.225	537.884	476.683	468.150	509.551	454.582
.D.	8.499	3.071	5.370	6.671	4.926	2.762	2.824	18.231
R.S.D.	104.883	0.823	1.100	1.240	1.033	0.390	0.554	4.011
	Ti	Cd	1	ι _	Nn _	Sb	¥ ~	8=-
	(ppb)	(ppb) <u></u>	(196)	(ppb)	(ppb)	(ppb)	(pph)	(ecq)
ean	485.592	473.037	461.508	4973.461	483.500	334.646	483.376	467.381
. D .	3.348	3.566	5.889	3.488	2.370	24.044	4.071	2.435
£.S.D.	0.689	0.754	1.276	0.070	0.594	7.185	0.342	0.521
	11							
	(pph)							
237	420.293							
.D.	28.420							
R.S.A	6.762							

	32	1.313	0.015	
•	33	7.113	0.301	WHC-SD-MM-DP-025
	34	1.007	3.177	Addendum 14 Rev 0
	35	3.217	0.010	Addendan 11 Ke. v
	36	3.310	0.025	
	37	11.179	0.985	
	38	2.311	0.030	
	3?	0.790	0.001	
1	40	4.821	0.029	
ì	42	9.033	3.004	
	43	9.714	0.904	
,	44	2.478	0.013	
:	45	-0.001	0.004	

dentity 1: CCV-4 Identity 2: CCV

2:03 PM January 23, 1992

ask name : ALL_SIM

suple Weight: 1.0000 Solution Volume: 1.00
1-Peak Integrations: 3 Off-Peak Integrations: 1

90	2r	Sr	Bi	Ta	Hg	Sn	Si	Al
Halley "	(ppb)	(ppb)	(696)	(ppb)	(pp=)	(ppb)	(ppb)	(ppb)
an 🕾	-19.073	-0.979	-216.090	-35.507	-1673.913	-5.430	376.408	418.170
.9.	4.070	0.084	27.680	7.338	820.634	4.604	2.978	9.821
RIST).	21.341	8.555	10.496	20.666	49.025	84.792	0.791	2.349
, A.J.	¥	Zn-	Co _	t i	Co_	Hi_	La	En
50		(ppb)		(ppb)	(ppb)	(prb)	(ppb)	(ppb)
69U 5.2	-12.837		482.850 1	-3.225	485.752	480.358	-9.508	-1.951
	52.330	2.012	2.482	0.102	1.342	5.127	4.075	0.225
es es	407.542	0.449	0.514	3.158	0.276	1.067	42.859	11.547
	Fe_	Ca	Cr _	214	Ĉ e	Sm	Pa -	F
<b>M</b>	(pph)	(ppb)			(ppb)			(305)
9.0	480.193		•	-78.039		-190.495	491.107	23.133
. D .	8.413	3.475			22.854		2.883	31.783
R-S-D.	1.752	0.769	0.548	29.388	18.398	2.388	0.542	137.396
6	ş	Ng	As	Ha _	ňo 🜊	5e ~	Ag	₽ <b></b>
	(ppb)		-	_	(ppb)	(ppb)	(ppb)	(ppb)
ean	7.767		488.225	537.884		468.130	509.551	454,582
. D .	8.499	3.071	5.370	6.671	4.926	2.762	2.824	18.231
R.S.D.	108.883	0.623	1.100	1.240	1.033	0.590	0.554	4.011
	Ti	Cd	1	τ_	∦n	Sb	¥ ~	78-
	(ppb)	(ppb)	(996)	(998)		(pph)	{ <b>d</b> qq}	(ppb)
5 5 W	485.592		461.508	4973.461	483.500		483.376	467.331
.₽.	3.348	3.566	5.889	3.488	2.870	24.044	4.071	2.435
R.S.D.	0.889	0.754	1.276	0.070	0.594	7.185	0.842	0.521
	11							

ean 420.293 .D. 28.420 .R.S.* 6.782 orrected Commis Statistics 2:34 FA January 23, 1792

ask name : ALL SIN

gaple Worght: 1.0000 Solution Volume: 1.00 n-Pa egrations: 3 Off-Peak Internations: 1

			S.J. Kpulses	
	1	0.010	0.002	
	2	-0.003	0.004	
	3	-0.039	0.921	
9	5	0.019	0.013	
ì	6	1.517	0.010	
1	7	-0.045	0.022	
	8	0.097	0.007	
l	9	0.393	0.012	
	10	-0.037	0.014	
ì	11	0.053	0.007	
ı	12	0.051	0.004	
	14	-0.011	0.007	
)	15	-0.001	0.012	
3	18	-0.069	0.005	
	17	-0.005	0.002	
1	18	-0.088	0.001	
	19	0.008	0.016	
1	20	0.208	0.001	
	21	-0.017	0.007	
}	22	0.084	0.051	
10	24	0.019	0.007	
	25	-0.024	0.005	
	26	-0.009	0.007	
~~	27	0.010	0.003	
	28	0.027	0.006	
271	29	0.007	0.001	
	30	-0.024	0.003	
	31	0.205	0.009	
1.00	32	0.004	0.014	
2	33	-0.055	0.009	
6	34	-0.117	0.004	
5	35	-0.006	9.015	
	36	-0.100	0.002	
1	37	-0.115	0.024	
	38	0.011	0.015	
	39	-0.047	0.004	
ì	40	0.004	0.003	
b	42	0.001	0.005	
	43	0.018	0.002	
2	44	-0.007	0.002	
	45	-0.062	0.005	

jentity 1: CC2-4 Identity 2: CCB 2:05 PM January 23, 1992

ask mame : ALL_SIM

angle thi: 1.0000 Solution Volume: 1.00 n-Pe. egrations: 3 Off-Peak Integrations: 1

<b>1</b> 0	Zr (353) -15,362 -0,700 4,495	\$r (600) -1.170 -1.182 13.851	3i (p))) -12,200 21,773 113,502	Ta (238) 2.330 3.144 348.024	37 (224) -1173.713 -543.420 -54.810	\$1 7 (20) 7 -3.314 5.123 58.132	51 (225) -13,339 -4,692 -23,561	31 (235) -41.540 4.815 11.590	WHC-SD-WM-DP-025 Addendum 14 Rev 0
ean .). 2.0.0.	9 (pob) -73.471 19.084 25.975	Za (pob) -41.683 0.585 1.405	80 (ppb) -3.945 0.337 21.215	Li (ppb) -2.172 0.722 33.256	Co (ppb) 2.046 2.716 132.729	Ni (ppb) -2.779 1.262 45.396	La (ppb) -4.075 9.411 230.969	Eu (pph) -1.951 0.065 3.333	
ean .D. R.S.D.	Fp (ppb) -4.249 5.375 126.491	Ca (ppb) -14.511 0.190 1.313	Cr {ppb} -10.603 2.940 27.726	Md (ppb) -60.268 22.736 37.724	Ce (ppb) -126.104 19.792 15.695	Sp (ppb) -125,969 14.891 11.821	Ra (ppb) -2.541 0.433 17.027	f (ppb) -4.610 18.350 398.036	
ean D.CO R.S.D.	5 (ppb) 8.207 6.359 77.484	Mg (pph) -3.652 0.219 6.000	As (ppb) -43.863 3.414 7.783	Wa (ppb) 47.629 5.497 11.542	No (ppb) -0.844 4.389 520.080	Se (ppb) 5.226 24.346 465.869	Aq (ppb) -6.447 1.271 19.713	Pb (ppb) -3.019 27.347 905.829	
13. 13. 13.	Ti (ppb) -3.613 0.271 7.500	Ed (ppb) -1.963 1.009 54.156	R (ppb) 4.044 3.044 75.285	r (ppb) -79.701 25.155 31.562	Mn (ppb) -0.224 0.348 155.294	5b (ppb) -33.092 27.210 82.226	y (ppb) 0.234 1.446 618.322	Be (ppb) 0.124 0.323 259.762	
24n .0.3.0	T1 (ppb) -13.361 34.689 259.629								

orrected Counts Statistics 2:07 PM January 23, 1992

ask mame : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 -Feak Integrations: 3 Off-Peak Integrations: 1

halyte (	hannel	Mean Ipolses	S.D. Kpulses	ZR.S.D. Koulses
	1	0.026	9.00.0	
,	2	0.119	0.006	
	3	-0.120	0.008	
3	5	-0.034	0.021	
1	Ь	1.954	0.019	
7	7	5.829	0.088	
:	8	0.540	0.009	
1	3	605.033	3.257	
	10	-0.023	0.024	
	11	0.252	0.004	
	12	0.059	0.005	
1	14	-0.018	0.005	

;	13	0.014	0.004	
1	1.5	-9.073	0.003	WHC-SD-WM-DP-025
+	17	-2.215	7.332	Addendum 14 Rev 0
1	13	0.071	0.007	Addendum 14 Rev 0
:	19	279.379	2.382	
	20	1124.306	5.103	
,	21	0.006	0.004	
1	22	3.524	0.037	
?	24	0.025	0.010	
1	25	-3.511	0.004	
à	26	0.014	0.004	
	27	0.021	0.001	
	28	2.191	0.033	
1	29	318.004	5.230	
9	30	0.113	0.004	
1	31	0.257	0.008	
0	32	-0.011	0.012	
٥	33	-0.062	0.009	
9	34	-0.114	0.002	
5	35	-0.100	0.009	
i	36	-0.067	0.009	
.d	37	0.329	0.025	
	38	-0.478	0.005	
	37	-0.032	0.004	
n	40	1.673	0.012	
b.0	42	-0.994	0.004	
	43	0.022	0.004	
b h.	44	-0.000	0.002	
1.	45	-0.079	0.008	•
100				

temtity 1: ICSA-F Identity 2: ICSA

2:07 PA January 23. 1992

ask name : ALL_GIM

asple Weight: 1.0000 Solution Volume: 1.00 n-feak Integrations: 3 Off-Feak Integrations: 1

Sr ī a Si Zr 81 Нq Sn Al (ppb) (dgg) (pp)) (ppb) (254) (200) (dag) (996) Q_{ii} 3.811 276.531 -9.082 -104.030 -31.254 27282.609 1377.987 251126.081 . D . 3,457 0.236 8.378 13.446 1220.687 20.789 5.988 1353.020 R.S.D. 42.778 6.190 8.054 43.020 4.474 1.509 2.166 0.537 Ŋ. Zn Ce li Co Νj La (ppb) (aph) (600) (600) (ppb) (ppb) (ppb) (pob) -52.782 -23.054 -2.165 -2.7155.587 -4.369 -189.795 8.411 ୧୫୩ 34.406 0.361 1.047 0.539 0.829 1.790 6.225 0.423 . 5. . R.S.D. 1.565 48.338 19.943 14.839 40.963 3.868 5.031 65.185 P Fe Ca Hd ( 3 Sı 8a £r (ppb) (ppb) (500) (699) (600) (ppb) (ppb) (ppb) 71.683 97691.997 190229.105 -0.976 102.354 -107.139 -25707.058 0.691 654 778.656 0.347 5.938 .D. 833.535 1.591 35.198 27.287 12.038 P.S.P. 0.797 0.454 173.237 34.386 24.784 0.047 50.171 9.676 ăо Ş Âģ Χą ÅS Ha Se Pb (ppb) (dqq) (ppb) (ppb) (699) (dgg) (ppb) (dgg) 937.571 201167.801 133.277 79.997 -5.485 -17.298 -5,494 -172.657 530

). 3.3.3.	30.302 3.312	1157.117	1.530 3.378	4.513 5.854	3.450 .6.534	27.186 -157.048 _	0.835 11.587	13.433 9.513	
·	Ti (205) 0.358 1.212	Ed (ppb) 16.773 1.046	3 (900) -93.137 0.711	7 {pab} 10.730 21.219	#n (ppb) 32.822 0.675	5b (ppb) -60.372 20.883	y (ppb) 3.013 2.393	že (pp5) 1.368 0.285	WHC-SD-WM-D2-025 Addendum 14 Rev 0
R.S.D.	144.713	6.232	0.978	194.140	2.117	34.420	96.003	20.830	
en M. R.S.D.	T1 (pub) -128.221 54.623 42.600								

rrected Counts Statistics

2:09 PM January 23, 1992

sk name: ALL_SIM

aple Weight: 1.0000 Solution Volume: 1.00

-Pail_Integrations: 3 Off-Peak Integrations: 1

alyte Chi	annel	Mean Xpulses	S.D. Xpulses	ZR.S.D. Kpulses
10	1	0.013	0.009	
	2	9.109	0.006	
7	3	-0.158	0.010	
m	5	-0.020	0.009	•
8-7	6	1.966	0.008	*
	7	8.085	0.038	
	8	0.530	0.012	
50	9	613.133	2.044	
	10	0.036	0.017	
53	11	11.517	0.037	
	12	2.213	0.011	
-	14	-0.032	0.008	
2	15	2.084	0.015	
	16	3.978	0.023	
6	17	-0.046	0.001	
t	18	0.051	0.004	
	19	303.954	1.124	
	20	1135.921	3.144	
	21	1.260	0.009	
	22	3.504	0.077	
	24	0.014	0.012	
	25	-8.578	0.016	
	26	8,492	0.020	
	27	0.023	0.002	
	28	2.203	0.023	
l	29	930.484	2.171	
	30	0.104	0.017	
3	31	0.172	0.035	
)	32	0.006	0.009	
,	33	-0.004	0.007	
ı	34	3.240	0.006	
	35	0.455	0.013	
	36	-0.061	0.022	

1	J/	62+147	V. ≠34	
	33	-0.173	0.013	
	39	-1.047	0.311	WHC-SD-WM-DP-025
P	10	6.561	0.018	Addendum 14 Rev 0
<u> </u>	12	-3.923	0.097	
	43	0.750	0.004	
ę	11	2.377	0.208	
1	45	-0.054	0.005	

ask mame : ALL SIM

sable Weight: 1.0000 Solution Volume: 1.00

n-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	5r	Bi	la	Hg	\$n	Si	Al
	(ppb)	(ppb)	(dqq)	(ppb)	(pps)	( <b>d</b> qq)	(998)	(ppb)
2.811	-14.035	3.381	-144.176	-22.749	28065.217	1438.423	289.931	254490.546
.0.	4.070	0.246	10.900	5.753	531.165	8.581	7.984	849.088
F.S.D.	27.000	7.274	7,561	25.287	1.893	0.597	2.958	0.334
27	¥	Zn	Cu	ti	£ o	Иі	La	Ευ
	(ppb)	(ppb)	(699)	(ppb)	(pph)	(ppb)	(ppb)	(ppb)
ê3 <del>B</del>	28.003	981.849	497.937	-4.345	494.329	962.144	-171.153	7.067
ر فرا	24.177	3.276	2.567	0.834	3.494	5.499	2.353	0.271
R.S.D.	85.337	0.334	0.516	19.134	0.707	0.572	1.375	3.831
	Fe	£a	Cr	Hd	Ce	.5∎	Ba	P
From .	(ppb)	(ppb)		(ppb)	(ppb)	(ppb)	(996)	(ppb)
ean	99350.931	192173.801	523.863	79.088		-25561.393	515.992	87.866
J.	367.421	532.009	3.560	33.539	32.526	46.169	1.176	10.574
R.S.D.	0.370	0.277	0.679	42,408	23.350	0.180	0.232	12.058
21	5	Mg	Ås	На	ňо	Se	Ag	Pb
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(998)	(ppb)	(ppb)
हडारी	834.756	203702.691	121.456	39.383	0.000	34.290	1060.182	831.287
. D .	21.756	475.762	21.702	21.659	2.836	20.138	1.784	23.287
R.S.D.	2.606	0.233	17.868	54.996	12693531.134	58.729	0.137	2.801
0	Ti	6.9	B	K	Иn	Sb	٧	Be.
	(ppb)	(ppb)	(ppb)	(ppb)	(699)	(ppb)	(ppb)	(ppb)
840	1.716	1000.808	-93.137	-81.715	532.668	-148.929	508.853	504.941
.D.	3.931	1.421	2.831	68.524	1.544	39.134	2.893	1.165
R.S.D.	176.591	0.142	2.825	83.980	0.290	26.277	0.568	0.231
	11							
	(dqq)							

45.241

36.541 80.767

Forry Counts Statistics 2:11 PM January 23, 1992

Task : ALL_SIM

1830 5.1.

Sample Weight: 1.0000 Solution Volume: 1.00

-foik	integratio	ns: 3 3ff-Pe	ak Integrations :	1
ilyte	Channel	deam ipulsas		\$3.5.0. Ipulses
	1	0.025	0.003	
-	2	0.012	0.003	
	2	-0.012	0.041	
i	5	-0.030	0.014	
,	6	1.498	0.006	
:	7	0.004	0.038	
	8	0.109	0.002	
!	7	0.467	0.016	
	10	-0.008	0.015	
1	11	0.057	0.008	
!	12	0.055	0.003	
1	14	-0.015	0.007	
1	15	-0.006	0.008	
i	16	-0.088	0.014	
ì	17	-0.005	0.001	
J	18	-0.059	0.006	
2	19	0.016	0.006	
3 . Lile	20	0.260	0.015	
•	21	-0.002	0.001	
1 .O	22	0.161	0.033	
	24	0.041	0.002	
1 2	25	-0.008	0.004	
30	26	0.005	0.000	
	27	0.013	0.004	
NO	28	0.024	0.010	
3	29	0.042	0.012	
	30	-0.002	0.007	
	31	0.146	0.009	
7	32	-0.003	0.007	
	22	-0.039	0.007	
1	34	-0.106	0.003	
<del></del>	35	-0.015	0.009	
1	36	-0.092	0.003	
1 1	37	-0.058	0.017	
0	28	0.013	0.019	
	39	-0.049	0.003	
7	. 40	0.010	0.002	
5	42	-0.010	0.007	
	43	0.024	0.002 0.001	
ē 1	44	-0.006	0.001	
ì	45	-0.052	4.003	

dentity 1: rrx | Identity 2: Rinse | 2:12 FM January 23, 1992

ask name : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	lr	Sr	Bi	Ta	На	Sn	Si	Al
	(dad)	(dqq)	(699)	(996)	(ppm)	(ddd)	(596)	(696)
pan	-8.540	-0.496	-22.691	-27.128	-2434.783	2.678	-8.380	-10.800
,	1.212	0.116	43.045	9.207	407.282	9.074	1.524	6.577
	14.187	23.406	189.699	31.608	16.728	339.142	18.232	81.818

	Y	Za	Са	Li	Co	Чi	L3	Ęą	WHC-SD-WM-DP-025
	(226)	(00)	(695)	(923)	(398)	(1)	(292)	(ppb)	Addendum 14 Rev 0
± 3.0	-32.028	-41.326	-3.016	-2.514	1.323	-7.230	-5,771	-0.574	
	23.277	0.674	0.204	0.338	1.931	3,307	2.353	2.731	
8,9,5	72.533	1.531	23,857	25,548		45.738	34.544	51.700	
	Fę	[a	\$r	113	į e	Sa	24	ř	
	(ppb)	(btp)	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)	
ភូទ្ធត	-1.525	-5.722	-4.604	-26.772	-62.957	-77.327	-1.567	18.509	
.D.	2.041	2,478	0.242	14.327	5.986	12.399	0.000	23.930	
R.S.D.	133.848	43.312	5.249	55.333	9.349	16.034	0.000	151.443	
	S	ă:	Ås	На	ňe	Se	Âġ	Pb	
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(bbg)	(ppb)	(ppb)	
630	4.556	4.018	-15.051	10.932	-2.754	52.348	-2.946	-18.715	
.D.	11.083	2.657	9.060	5.747	2.282	17.404	0.917	16.433	
R.S.P.	237.541	66.133	60.196	52.566	77.262	37.068	32.226	87.808	
	Ti	Cđ	B	ķ	Ħn	5 b	γ	Вe	
	(ppb)    (ppb)								
ean	-2.575	0.532	4.508	-91.785	0.406	-97.446	4.403	0.373	
	0.341	0.708	3.715	18.459	0.152	37.547	1.061	0.108	
ean .D.: ~ R.S.L	13.245	133.083	82.419	20.111			24.106	28.866	
ر. د من	11								
19	(604)								
634 2000	56.961								
.P	22.605	1							
R.S.B.	39.886							•	
_									•

orrected Counts Statistics 2:14 FM January 23, 1992

ask name: ALL_SIM
ample Weight: 1.0000 Solution Volume: 1.00
n-Feak Integrations: 3 Off-Peak Integrations: 1

adylan	Channel	Mean Koulses	S.D. Kpulses	ZR.S.D. Tpulses
r	1	0.012	0.006	
r	2	0.001	0.001	
i	3	-0.044	0.014	
3	5	-0.008	0.010	
Ĵ	6	1.505	100.0	
a .	7	-0.029	0.021	
i	8	0.113	0.005	
l	9	0.353	0.011	
	10	-0.027	0.027	
n	11	0.499	0.009	
Ü	12	0.258	0.001	
i	14	-0.028	0.007	
0	15	0.407	0.006	
i	16	0.249	0.020	
à	17	-5.004	0.001	
3	18	-0.092	0.005	
3	19	0.006	0.003	

1 29 7,293 9,991 - 21 9,345 7,502	WHC-SD-WM-DP-025
	Addandum 11 Day A
22 9.025 9.020	Addendum 14 Rev 0
24 0.925 0.907	
25 -0.024 0.008	
25 -0.007 0.001	
27 0.011 0.002	
28 0.005 0.005	
29 0.009 0.001	
30 -0.005 0.012	
31 0.107 0.020	
32 -0.000 0.005	
2 33 -0.046 0.013	
34 -0.052 0.004	
5 35 -0.002 0.008	
1 36 -0.099 0.004	
d 37 0.114 0.029	
38 -0.006 0.008	
39 -0.047 0.003	
7 40 0.306 0.003	
b 42 0.033 0.008	
43 0.163 0.003	
2 44 0.046 0.001	
1 45 -0.064 0.005	

dewrity 1: CRI-F Identity 2: CRI 2:14 PM January 23, 1992

ask name: ALL_SIM ample Weight: 1.0000 Solution Volume: 'egratiops : 3 Off-Peak Integrations : 1

المنابعة	Zr	Sr	Bi	Ta	Ho	Sn	Si	Al
	(ppb)	(dqq)	(ppb)	(ppb)	(ppm)	(ppb)	(ppb)	(ppb)
e (IM)	-14.341	-0.986	-24.088	-14.882	-2000,000	-5.036	-5.720	-58.156
.D.	2.522	0.023	15.044	6.379	37.653	4.878	2.976	4.557
8.3.D.	17.587	2.406	62.454	42,860	1.883	96.862	52.030	7.835
10	٧	Zn	Cu	Li	Co	Ni	la.	Επ
_	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ddd)	(606)	(ppb)
630	-59.463	-1.835	44.178	-3.971	98.441	73.121	-1.358	-2.189
.D.	38.260	0.770	0.134	0.737	1.416	4.818	4.075	0.334
R.S.D.	64.342	41.950	0.303	18.549	1.439	6.539	300.114	15.242
	Fe	Ca	Cr	на	€e	Sa	Ba	P
	(ppb)	(ppb)	(dqq)	(ppb)	(696)	(ppb)	(ppb)	(ppb)
ean	-4.794	-14.673	15.825	-87.685	-110.082	-126.982	-2.379	4.637
.0.	1.132	0.098	0.837	9.842	20.842	13.755	0.070	14.438
R.S.D.	23.621	0.666	5.357	10.084	18.933	10.834	2.961	311.333
	\$	ăq	As	Na	Йo	Se	Aq	Pb
	(ppb)	(000)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
630	-17.963	-3.287	-19.344	-12.776	-2.004	25.500	14.100	3.622
.1.	5.457	0.253	14.876	12.125	1.675	39.908	1.116	14.068
R.S.D.	30.381	7.698	75.908	94.902	83.551	152.577	7.914	388.427
	Ţi	Cð	3	X.	ăп	Sb	¥	Вe
	(0pb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)

35	-3.523	7.715	0.333	-33.729	00.155	137.715	100.753	0.150
.).	0.513	1.173	1.307	13.157	0.253	- 41.757	1.333	0.103
1.5.).	11.331	15.113	212.338	22.218	0.327 -	- 27.388	1.325	1.703
eas .). R.S.D.	T1 (ppb) -25.031 32.226 128.484					M-DP-025 14 Rev 0		

orrected Counts Statistics 2:16 FM January 23, 1992

ask mame: ALL_SIM smple Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

nalyte C	hannel		S.D. Kpulses	ZR.S.B. Kpulses
r	1	0.016	0.004	
r	2	0.012	0.004	
i jos	3	-0.181	0.020	
, _	5	0.016	0.011	
3	6	1.504	0.028	
5	7	0.025	0.028	
i	8	0.707	0.005	
1 ****	7	1.548	0.022	
	10	0.017	0.022	•
U g	11	5.642	0.025	
U ~	12	2.192	0.010	
i	14	-0.005	0.003	
0 = +	15	2.095	0.008	1
i	16	1.961	0.020	
8-50-5	17	-0.905	0.001	
0	18	-0.086	0.002	
6	19	1.522	0,005	
3	20	3.025	0.012	
$T^{\mathcal{O}_{\mathcal{F}}^{\mathcal{F}}}$	21	1.200	0.003	
300	22	0.029	0.057	
e	24	0.021	0.007	
•	25	-0.038	0.014	
3	26	8.230	0.025	
	27	0.021	0.902	
	28	0.014	0.008	
0	29	2.312	0.008	
5	30	0.388	0.014	
4	31	0.742	0.013	
0	32	1.533	0.009	
6	33	0.178	0.013	
9	34	1.536	0.004	
Ъ	35	0.264	0.008	
i	36	3.581	0.003	
]d	37	11.508	0.047	
	38	2,326	0.020	
	39	0.805	0.005	
'n	40	4.707	0.022	
36	42	0.095	0.003	

IJ	<b>3.</b> 727	0.001	WHC-SD-WM-DP-025
; 1	2.533	1.213	Addendum 14 Rev 0
15	0.011	0.004	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

antity 1: CCV-4 Identity 2: CCV 2:15 23 January 23, 1992

-sk mame : ALL SIM

-aple Weight: 1.0000 Solution Volume: 1.00 -Peak Internations : 3 Off-Peak Integrations : 1

	Zr	Sr	₿i	Ta	Нq	Sn	\$i	Àl
	(654)	(apb)	(ecq)	(996)	(ppm)	(dqq)	(ppb)	(ppb)
- à A	-12.862	-0.496	-167.915	0.426	-2021.739	7.791	386.528	438.109
. Э.	1.832	0.168	20.919	7.245	1845.011	6.071	3.024	9.139
k.S.D.	14.467	33.757	12.458	1699.084	91.259	77.929	0.782	2.084
	A	In	£a	Li	€o	Ni	La	Ea
	(pph)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(dqq)	(ppb)
93%	0.323	457.301	492.986	-1.595	497.004	481.232	-6.791	-1.821
.D.	31.789	2.192	2.238	0.269	1.772	4.690	2,353	0.130
rest.	9842.729	0.479	0.454	16.889	0.357	0.975	34.644	7.143
√ <b>?</b>	Fe	Ca	Cr	Nd	Ce	Sa	Pa	P
	(ppb)	(ppb)	(dqq)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
EAR	479.871	461.231	498.612	-89.495	-119.506	-161.707	499.971	69.371
. hory	1.645	2.079	1.258	25.737	17.860	40.942	1.499	10.594
R.S.D.	0.335	0.451	0.232	28.758	16.613	25.319	0.300	15.272
10			· -					
	S	No	Ås	Ha	Ħо	Se	Ag	Pb
	(ppb)	(dad)	(ppb)	(ppb)	(ppb)	(ppb)	(699)	(ppb)
- 34.	-11.745	501.376	437.798	503.455	483.117	570.247	518.871	485.974
.1.	9.278	1.838	18.604	7.896	2.849	37.352	1.284	11.310
Bos, D.	78.998	0.367	3.814	1.568	0.590	6.550	0.247	2.327
	Ti	Cd	P	. Х	ăn	Sb	٧	}e
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
3 1 C	475.122	486.468	464.424	5066.106	492.067	483.588	492.409	478.263
.3.	0.414	1.766	4.004	31.375	2.210	14.574	0.802	2.932
PS.D.	0.084	0.404	0.362	0.620	0.447	. 3.018	0.163	0.613

11 (ppb) 499.992 238 26.624 . 0 . R.S.D. 5.325

orrected Counts Statistics 2:18 PM January 23, 1992

ask name : ALL_SIM

saple Weight: 1.0000 Solution Volume: 1.00 n-Feak Integrations: 3 Off-Peak Integrations: 1

aslv∤	nnel	Mean Apolses	S.D. Kowises	ZR.S.D. Kpulses
	1	0.012	0.006	

	2	-0.701	0.304	
	3	-9.052	0.012	
:	5	-0.021	0.004	WHC-SD-WM-DP-025
	ś	1.503	0.025	Addendum 14 Rev 0
	7	-0,009	0.017	
	9	0.085	0.003	
	9	0.342	0.914	
	10	0.024	0.011	
-,	11	0.033	0.007	
	12	0.042	0.002	
1	1.4	-0.031	0.011	
:	15	-0.017	0.011	
l	14	-0.057	0.011	
÷	17	-0.002	0.002	
j	18	-0.079	0.004	
ę.	19	-9.005	0.010	
3	20	0.037	0.001	•
r	21	-0.010	0.003	
1	22	0.099	0.055	
ş	24	0.022	0.008	
4	25	-0.023	0.004	
10	26	-0.003	9.002	
n' t	27	0.012	0.003	
	28	0.013	0.005	
3	23	0.002	0.001	
5 7	30	-0.907	0.003	
3	31	0.119	0.012	
2 2	32	-0.013	0.007	
نځ <u>و</u>	33	-0.058	0.008	
1	34	-0.127	0.004	
6	35	-0.020	0.009	
1	38	-0.108	0.004	
1 77	37	-0.138	0.020	
<i>a</i> •	38	-0.019	0.014	
3	39	-0.058	0.005	
3	40	0.006	0.001	
b	42	-0.007	0.011	
5.7	43	0.022	0.002	
9	44	-0.006	0.001	
10	45	-0.060	0.008	

dentity 1: CCR-4 Identity 2: CCR 2:18 PM January 23, 1992

ask mame : ALL_SIM

smple Weight: 1.0000 Solution Volume: 1.00
n-Peak Integrations: 3 Off-Peak Integrations: 1

	2r	Sr	8 i	Ta	Нq	5 n	Si	Al
	(ppb)	(660)	(ppb)	(694)	(pps)	(995)	(ppb)	(ppb)
630	-14.341	-1.020	-43.637	-23.387	-2130.435	-0.238	-23.977	-63.002
.1.	2.744	0.163	12.273	2.240	1609.870	3.981	2.286	5.670
R.S.D.	20.530	15.953	28.125	9.578	75.565	1686.192	9.534	9.000
	K	Zn	C3	li	CO	Мi	La	Εu
	(ppb)	(ppb)	(dgg)	(ppb)	(pph)	(opb)	(ded)	(ppb)
630	12.765	-43.499	-6.934	-4.277	-1.852	-0.315	6.792	-1.344
.1.	14.856	0.594	0.402	1.117	2.860	2.712	9.130	0.271

1.3.0.	115,034	1.367	5.333	23.113	131.300	357.317	117.791	20.145	
									WHC-SD-WM-0P-025
	£φ	Ca	ĉr.	133	Ca 1	Ç.₃.	5.3	?	Addendum 14 Rev O
	1650)	16901	(600)	(600)	(006)	(669)	(666)	(605)	- <del>-</del>
	-9,179	-43.456	-7.312	-54.365	-115.679	-122.991	-2.155	11.573	
	3.27\$	9.293	1.107	24,767	21.222	11.712	0.106	29.022	
1.8.6.	23,323	0.222	14.174	45.557	13.188	9.686	4.902	173.001	
	5	рĶ	As	Na	Ħо	Se	Ag	Pb	
	(ppb)	(ppb)	(690)	(699)	(ppb)	(dqq)	(ppb)	(600)	
1080	-3,473	-4.575	-22.362	-5,355	-5.118	-4.127	-9.519	-28.374	
.7.	5.725	0.253	4.147	7.558	2.075	21.792	1.203	18.57?	
: P.S.D.	89.721	5.413	18.545	141.152	33.918	528.079	12.638	58.500	
	Τi	Cd	3	R	Mn	Sb	Ų	₽e	
	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(ppb)	(ppb)	(dgd)	
'ean	-4.743	-2.829	-1.770	-150.191	0.031	-77.221	3.013	0.249	
3.D.	0.548	0.819	2.787	31.005	0.058	60.760	1.695	0.108	
. R.S.D.	11.547	28.965	155.688	20.644	188.739	78.684	53.253	43.297	
	71								
	(ppb)								
1ean	0.703								
1.1	56.404								
. R.S.D.	3018.914								
. 7									

nerected Counts Statistics 2:20 PM January 23, 1992

i ALL SIM

oht: 1.0000 Solution Volume: 1.00

nereal Integrations: 3 Off-Peak Integrations: 1

-nālýte		Mean Xpulses	S.D. Epulses	R.S.D. Kpalses
ir	]	-0.037	0.006	
行つ	2	246.646	0.335	
i ·	3	-0.089	0.027	
0	5	-0.034	0.011	
iq	6	1.538	0.008	
30	7	20.974	0.130	
3i	8	0.077	0.008	
41	9	0.078	0.016	
i	10	0.617	0.260	
ln .	11	110.026	0.070	
ĴU	12	21.043	0.032	
i	14	98.477	0.455	
0	15	40.720	0.037	
¥į	16	20.251	0.026	
. }	17	-0.004	0.000	
Eu	18	-0.067	0.006	
: e	19	14.917	0.064	
ű à	20	56.972	0.081	
(r	21	12.006	0.024	
પૈત	22	0.324	0.033	
	24	0.069	0.005	
	23	-0.357	0.008	

	23	133.717	0.239	
	27	3.175	0.307	
	23	0.120	0.306	WHC-SD-WM-DP-025
	24	22.722	0.912	Addendum 14 Rev 0
	30	-0.002	0.013	Addenadiii 14 Nev o
,	31	15.313	0.052	
	32	0.306	0.204	
	33	0.421	0.008	
;	34	1.079	0.003	
;	35	-0.009	0.009	
	36	-0.112	0.003	
:	37	224.303	0.108	
	28	24.378	0.067	
	39	0.843	0.001	
ì	40	48.026	0.018	
5	42	0.876	0.010	
	43	0.017	0.002	
2	44	-0.008	0.000	
1	4.5	-0.063	0.005	

* . y %	Zr	Sr	Ði	Ta	Нa	5n	Si .	Al
A	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(opb)	(ppb)	(ppb)
ean ^b	-36.780		-71.914	-31.679	195.652	4753.309	-29.479	-172.530
.0	2.522	13.472	28.341	7.254	523.096	30.687	5.335	6.534
R.S.L.		0.136	39.410	22.898	267.369	0.620	18.096	3.822
40.00	y .	Zn	Cu	li	Co	Ni	La	Ea
200,8	(ppb)	(ppb)		(ppb)			(ppb)	(ppb)
ean	817.361	,	4868.261	10028.924		.,,,	-1.358	-0.585
P	84.977			46.381			0.000	0.396
8.2.2.	10.371	0.064	0.154	0.462	0.089	0.127	0.000	\$7.583
6	Fe	£a	€r	Н	(e	Sa	Pa	P
()·			(ppb)	(ppb)	(ppb)	(pph)	(ppb)	(ppb)
ean	4869.259	9565.887	5021.133	-22.766	16.212	-1118.677	9997.570	1142.035
.D.	20.770	13.676	9.925	14.711	13.060	15.934	16.415	50.174
R.S.D.	0.427	0.143	0.198	65.495	80.553	1.514	0.164	4.393
	5	ăq	Å5	Ha	Ħо	Se	Αg	Pb
	(prb)	(pph)	(ppb)	(ppb)	(dad)	(644)	(dqq)	(666)
930	40.417	4974.154	-13.576	10010.020	0.000	257.680	373.667	-9.056
	7.237	2.657	16.473	31.913	1.317	22.493	1.021	15.403
R.S.D.	17.995	0.053 -	121.338	0.319	5854315.791	a.729	<b>0.273</b>	170.089
	Τi	Cd	3	X	ăn.	Sb	٧	3 e
	(998)	(600)	(606)	(60)	(dqq)	(699)	(ppb)	(ppb)
5 3 U	-5.285		4850.007			4903.789	-0.461	-0.062
.5.	0.414	17.156	17.399	3.498	1.794	54.420	1.146	0.000
R.S	7.833	0.182	0.359	0.086	0.037	1.110	313.318	0.000

prrected Counts Statistics 2:23 PM January 23, 1992

-sk mame : ALL SIM

spole Weight: 1.0000 Solution Volume: 1.00 -feek Integrations : 3 Off-Peak Integrations : 1

	10.004.4070			
			S.J. Ipulses	
,	1	-0.144	0.004	
r	2	-0.011	0.005	
	3	4.886	0.041	
<b>)</b>	5	-0.024	0.012	
;	6	1.541	0.014	
i	7	-0.083	0.035	
	8	0.024	0.009	
1 31	9	1.174	0.041	
-	10	-0.012	0.016	
- J. mort	11	0.227	0.011	
HO.	12	0.094	0.004	
:	14	-0.019	0.002	
<b>S</b>	15	-0.028	0.003	
1	16	-0.071	0.008	
Sec.	17	1.278	. 0.004	
	18	78.579	0.227	
	19	0.036	0.007	
1	20	0.407	0.004	
,	21	-0.013	0.009	
100	22	11.347	0.049	
:	24	1.865	0.006	
,	25	1.802	0.004	
1	26	-0.438	0.008	
. " ,	27	0.021	0.004	
0	28	0.016	0.008	
1	29	0.009	0.001	
;	30	0.085	0.006	
à	31	0.237	0.024	
)	32	0.012	0.003	
÷	33	-0.044	0.017	
1	34	16.431	0.052	
?	35	2.675	0.945	
:	36	-0.135	0.010	
1	37	-0.160	0.025	
	38	-0.007	0.020	
	39	-0.047	0.008	
1	40	-0.013	0.002	
b	42	-0.921	0.004	
	43	0.060	0.004	
÷	44	-0.008	0.002	
	45	-0.036	0.004	

Sentity 1: 3872 3() 201000 Hentity 2: Direct 2:21 2M January 23, 1992 7 - 1

ask asae : ML 31%

angle Jeight: 1.0000 Solution Volume: 1.00 n-Pash Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-025 Addendum 14 Rev 0

(5)1 3 (10)12 4 4							
Zr	Sr	3i	Ta	Ha	Sa	Si	31
(699)	(659)	(ppb)	(696)	(ppa)	(6çq)	(996)	(665)
-86.084			-25.083	369.565	-17.705	-64.458	291.196
1,351	0.209	42.733	7.387	920,005	3.213	5.715	17.179
2.150	14.569	0.332			44.306	7.177	5,700
v.	Zn	r3	Li	Co	Ni	La	£3
(ppb)	(699)	(666)	(ppb)	(ppb)	(699)	(dad)	(656)
-37.188	-26.000	8.113	-3.021	-3.777	-3.336	5222.901	5113.733
22.563	0.955	0.815	0.204	0.818	1.805	14.693	14.739
80.873	3.672	13.334	6.742	21.651	54.125	0.281	0.288
Fe	Ca	Cr	Иd	€e	Se	Pa	P
(opb)	(556)	(ppb)	(ppb)	(ppb)		(ppb)	(ppb)
					5313.077	-28.707	69.371
				17.043	10.459	0.336	28.030
					0.197	1.170	40.407
\$	řą	ÅS	Ha	Ħо	S€	Αq	Pb
(404)	-	(ppb)	(ppb)		(ppb)	(ppb)	(dqq)
-5.559	-3.214	76.314	67.421	1.683	37.841	5251.394	
9.330	0.219	7.447	14.998	0.796	49.632	16.659	81.122
167.843	6.818	7.732	22.245	47.186	131.159	0.317	1.672
Ti	C∂	De .	#.	Иn	Sb	¥	Pe
(dag)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
-8.356	-3.767					28.954	-0.062
1.293	1.932	3.929	48.336	0.174	24.044	2.631	0.323
15.469	27.387	858.564	59.152	8.915	15.385	7.086	519.797
11							
(ppb)							
174.165							
24.696							
14.130							
	(ppb) -86.084 1.351 2.150  % (ppb) -37.188 22.563 60.673  Fe (ppb) 5.122 2.176 42.496  \$ (ppb) -5.559 9.330 167.843  Fi (ppb) -8.356 1.293 15.469	(ppb) (ppb) -86.094 -1.436 1.351 0.209 2.150 14.569  % In (ppb) (ppb) -37.188 -26.000 22.563 0.955 60.673 3.672  Fe Ca (ppb) (ppb) 5.122 19.165 2.176 0.600 42.496 3.130  S Mq (ppb) (ppb) -5.559 -3.214 9.330 0.219 167.843 6.818  Fi Cd (ppb) (ppb) -8.356 -3.767 1.293 1.032 15.469 27.387	(ppb) (ppb) (ppb) -88.084 -1.438 5138.329 1.351 0.207 42.733 2.150 14.567 0.332  V In Cu (ppb) (ppb) (ppb) -37.188 -28.000 8.113 22.563 0.955 0.815 60.673 3.672 13.334  Fe Ca Cr (ppb) (ppb) (ppb) 5.122 19.165 -9.068 2.176 0.600 3.720 42.496 3.130 41.023  S Mg As (ppb) (ppb) (ppb) -5.557 -3.214 96.314 9.330 0.219 7.447 167.843 6.818 7.732  Fi Cd B (ppb) (ppb) (ppb) -8.356 -3.767 0.597 1.293 1.032 3.929 15.469 27.387 658.564	(ppb) (ppb) (ppb) (ppb) (ppb) -86.084 -1.436 5138.329 -25.083 1.351 0.209 42.733 7.367 2.150 14.569 0.332 31.756  W	(ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)           -86.084         -1.438         5133.329         -25.083         367.565           1.351         0.209         42.733         7.967         720.005           2.150         14.569         0.332         31.776         248.942           \$\$\text{Zn}\$         Cu         Li         Co           (ppb)         (ppb)         (ppb)         (ppb)           -37.188         -26.000         8.113         -3.021         -3.777           22.563         0.955         0.815         0.204         0.818           80.673         3.672         13.334         6.742         21.651           Fe         Ca         Cr         Hd         Ce           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)           5.122         19.165         -9.088         5225.650         5092.465           2.176         0.600         3.720         22.020         17.043           42.476         3.130         41.023         0.421         0.335           S         Mq         As         Ha         Mo           (ppb) </td <td>(ppb)         (ppb)         <th< td=""><td>(pph)         (ppb)         (pph)         (pph)         (pph)         (pph)         (pph)           -28,084         -1,438         5138,329         -25,083         389,565         -17,706         -64,458           1,351         0,209         42,733         7,287         720,005         3,213         5,215           2,150         14,587         0,332         31,776         249,942         45,336         7,177           \$\$\frac{7}{2}\$         2n         Cn         Li         Co         Mi         La           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)           -37,188         -26,000         8,113         -3,021         -3,777         -3,336         5222,901           22,563         0,955         0,815         0,204         0,818         1,805         14,673           \$0,673         3,672         13,334         8,742         21,651         54,125         0,281           Fe         Ca         Cr         Md         Ce         5e         Ba           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)</td></th<></td>	(ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb) <th< td=""><td>(pph)         (ppb)         (pph)         (pph)         (pph)         (pph)         (pph)           -28,084         -1,438         5138,329         -25,083         389,565         -17,706         -64,458           1,351         0,209         42,733         7,287         720,005         3,213         5,215           2,150         14,587         0,332         31,776         249,942         45,336         7,177           \$\$\frac{7}{2}\$         2n         Cn         Li         Co         Mi         La           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)           -37,188         -26,000         8,113         -3,021         -3,777         -3,336         5222,901           22,563         0,955         0,815         0,204         0,818         1,805         14,673           \$0,673         3,672         13,334         8,742         21,651         54,125         0,281           Fe         Ca         Cr         Md         Ce         5e         Ba           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)</td></th<>	(pph)         (ppb)         (pph)         (pph)         (pph)         (pph)         (pph)           -28,084         -1,438         5138,329         -25,083         389,565         -17,706         -64,458           1,351         0,209         42,733         7,287         720,005         3,213         5,215           2,150         14,587         0,332         31,776         249,942         45,336         7,177           \$\$\frac{7}{2}\$         2n         Cn         Li         Co         Mi         La           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)           -37,188         -26,000         8,113         -3,021         -3,777         -3,336         5222,901           22,563         0,955         0,815         0,204         0,818         1,805         14,673           \$0,673         3,672         13,334         8,742         21,651         54,125         0,281           Fe         Ca         Cr         Md         Ce         5e         Ba           (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)         (ppb)

Corrected Counts Statistics 2:25 FM January 23, 1992

Task mame : ALL_SIM

Sample Weight: 1.0000 Solution Volume: 1.00 In-Peak Integrations: 3 Off-Peak Integrations: 1

Analyte	Channel	Mean Apulses	S.D. Kpulses	28.5.D. Xpulses
]t	1	23.354	0.039	
ŝr	2	0.008	0.008	
3i	3	-1.845	0.030	
T ₃	, I	15.857	0.963	
Ha D	8	26.881	0.054	
Sn.	7	0.063	0.042	

	3	12.373	0.223	
	•	12.133	0.021	MHC-SD-MM-DP-025
	11	31.731	1.732	Addendum 14 Rev O
	11	0.143	3.303	
	12	0.956	0.005	
	14	-0.025	0.308	
	15	-0.000	0.017	
	15	0.301	0.923	
	17	-0.006	0.001	
	18	-0.155	0.907	
	17	0.002	0.309	
	20	0.137	0.001	
	21	0.019	0.001	
:	22	-0.099	0.051	
	24	0.021	0.013	
5	25	-0.100	0.007	
3	28	-0.016	0.008	
•	27	1.476	0.014	
	28	4.572	0.027	
3	29	0.011	0.001	
;	30	3.973	0.015	
}	31	0.170	0.003	
, 4	32	32.008	0.017	
	33	1.493	0.015	
. 1	34	-0.120	0.011	
i ng	35	-0.967	0.007	
	36	37.068	0.072	
~	37	-0.277	0.025	
	38	0.018	0.013	
55	39	-0.053	0.005	
	40	0.017	0.002	
"} }	42	0.029	0.003	
~~	47	14.488	0.023	
:	4J 44	54.202	0.093	
101	45	0.656	0.004	
1	45	A*01D	V. VV7	

dentity 1: SSIJ SID 3848AD Identity 2: Direct 2:26 PM January 23, 1992

as Prage : ALL_SIM

ample Weight: 1.0000 Solution Volume: 1.00 n-Peak Integrations: 3 Off-Peak Integrations: 1

	7 <i>r</i>	Sr	Bi	Ja	Ha	Sn	Si	Al
	(pph)	(ppb)	(#q#)	(699)	(ppm)	(dad)	(ppb)	(ppb)
230	10874.526	-0.671	-1910.248	10104.822	1652978.261	17.863	8283.835	4855.891
.1.	17.655	0.314	31.073	40.246	3512.669	10.024	18.585	9.821
R.S.D.	0.165	46.862	1.627	0.378	0.213	56.117	0.224	0.202
	¥	Zn	Cu	Li	Co	Ni →	La	Εu
	(ppb)	(699)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
630	44915.732	-33.618	-2.707	-3.632	-16.603	85.360	-10.866	-6.330
.).	87.528	0.273	1.097	0.308	4.506	5.511	2.353	0.479
8.5.2.	0.175	0.811	40.524	22.254	27.139	6.457	21.652	7.573
	Fe	Ca	€r	Ив	Ce	Sa	34	P
	(ppb)	(ppb)	(éqq)	(306)	(699)	(ppb)	(ppb)	(699)
	-5.992	-26.555	4.325	-143.332	-121.371	-351.314	-2.728	10165.460

¥.3.}.	19.373	0.308	3.677	16.723	30.310	2.13.5 	18.710	0.921	
	ŝ	13	às.	313	70	3.	\$q	PS	
	(ppo)	(ong)	(699)	(654)	(666)	(699)	(dqq)	(608)	
p	5255,563	-2.349	5111.729	38.352	10125.875	4505.832	-7.271	-112.371	
	30.814	0.127	19.354	2.143	5.308	44.324	3.397	12.329	
.3.).	0.533	4.441	0.373	5.395	0.352	0.999	46.575	10.720	
	Ti	Cd	3	X	ān.	Sb	y	30	
	(205)	(dag)	(696)	(690)	(699)	(\$9\$)	(600)	(225)	
i D	5032.746	-8.683	5,436	-119,991	1.124	89.875	10054.502	10113.112	
).	7.383	1.055	2.543	31.005	0.154	15.548	15.197	17.437	
.9.0.	0.193	12.155	48.717	25.842	13.858	23.533	0.160	0.172	
	11				WHC-SD-	-WM-DP-02	5		
	(pph)				Addendu	ım 14 Rev	0		
an.	5038.127								
P.	30.653								
R.S.D.	0.608								7935-1059
									7939-1999
10									1 100/10
								1	1 []-[]
1 13								( te	vest le Clis
									0
10									4